

SIEMENS



CCTV SISTORE AX9/AX16 (V2.5)

User's Manual

Liefermöglichkeiten und technische Änderungen vorbehalten.
Data and design subject to change without notice. / Supply subject to availability.
© 2004 Copyright by
Siemens Building Technologies AG

Wir behalten uns alle Rechte an diesem Dokument und an dem in ihm dargestellten Gegenstand vor. Der Empfänger anerkennt diese Rechte und wird dieses Dokument nicht ohne unsere vorgängige schriftliche Ermächtigung ganz oder teilweise Dritten zugänglich machen oder außerhalb des Zweckes verwenden, zu dem es ihm übergeben worden ist.

We reserve all rights in this document and in the subject thereof. By acceptance of the document the recipient acknowledges these rights and undertakes not to publish the document nor the subject thereof in full or in part, nor to make them available to any third party without our prior express written authorization, nor to use it for any purpose other than for which it was delivered to him.

Contents

Preface	7
Compliance notice of FCC	7
Important Safeguards	8
1 Introduction	11
1.1 Features	11
1.2 Technical Overview	12
2 Installation	13
2.1 Package Contents	13
2.2 Required Installation Tools	13
2.3 Setting Unit for PAL or NTSC	13
2.4 Connecting the Video Source	14
2.5 Connecting the Loop Through Video	14
2.6 Connecting the Monitor	14
2.7 Connecting Audio	15
2.8 Connecting Alarms	15
2.8.1 AI 1 to 16 (Alarm In)	16
2.8.2 GND (Ground)	16
2.8.3 AO 1 and 4 (Alarm Out)	16
2.8.4 ARI (Alarm Reset In)	16
2.9 Connecting to the RS485	17
2.10 Connecting to the RS232 Port	17
2.11 Connecting to the UltraWide SCSI Port	18
2.12 Connecting to the Network Port	18
2.13 Connecting to the USB Port	19
2.14 Factory Reset	19
2.15 Connecting the Power Cord	20
3 Configuration	21
3.1 Front Panel Controls	21
3.1.1 Power LED	21
3.1.2 Network LED	21
3.1.3 Backup LED	21
3.1.4 Camera Buttons (1 to 16)	21
3.1.5 Sequence Button	22
3.1.6 Display Button	22
3.1.7 PTZ Button	22
3.1.8 Freeze Button	22
3.1.9 Alarm Button	22
3.1.10 Spot Button	22
3.1.11 Menu Button	22
3.1.12 RW (Rewind) Button	23
3.1.13 PREV (Previous) Button	23
3.1.14 Search/Stop Button	23
3.1.15 PLAY/PAUSE Button	23
3.1.16 Next Button	23
3.1.17 FF (Fast Forward) Button	23
3.1.18 REC (Record) Button	23
3.1.19 Enter Button	24
3.1.20 Up, Down, Left, Right Arrow Buttons	24

3.2	Turning on the Power	24
3.3	Initial Unit Setup	24
3.4	Quick Setup Screen	25
3.5	Normal Setup Screen	26
3.5.1	System Information	26
3.5.2	Date/Time Setup	29
3.5.3	System Check Screen	32
3.5.4	Storage Screen	33
3.5.5	System Log Screen	35
3.5.6	System Shutdown	35
3.6	Configuring Input Devices	36
3.6.1	Camera Setup Screen	36
3.6.2	Alarm In Setup Screen	37
3.6.3	Motion Detector	38
3.6.4	Alarm Out Setup Screen	40
3.6.5	Audio Setup Screen	41
3.6.6	RS232/RS485 Setup Screen	42
3.7	Configuring Recording Settings	43
3.7.1	Record Mode Setup Screen	43
3.7.2	Time-Lapse Record Mode Setup Screen	44
3.7.3	Time-Lapse Recording Schedule	45
3.7.4	Pre-Event Recording Setup Screen	46
3.8	Event Action Setup	47
3.8.1	Alarm In Event Action (Record) Setup Screen	47
3.8.2	Alarm In Event Action (Alarm Out) Setup Screen	48
3.8.3	Alarm In Event Action (Notify) Setup Screen	49
3.8.4	Motion Detector Event Action (Record) Setup Screen	49
3.8.5	Motion Detector Event Action (Alarm Out) Setup Screen	50
3.8.6	Motion Detector Event Action (Notify) Setup Screen	51
3.8.7	Video Loss Event Action (Record) Setup Screen	51
3.8.8	Video Loss Event Action (Alarm Out) Setup Screen	52
3.8.9	Video Loss Event Action (Notify) Setup Screen	53
3.9	Display Setup	54
3.9.1	OSD (On-Screen Display) Setup Screen	54
3.9.2	Main Monitoring Setup Screen	55
3.9.3	Spot Monitoring Setup Screen	56
3.10	Network Setup Screen	57
3.10.1	LAN Setup Screen	58
3.10.2	Modem Setup	59
3.10.3	Callback Center (LAN) Setup Screen	60
3.10.4	Callback Center (Modem) Setup Screen	61
3.11	Password Setup Screen	62
3.12	Config Screen	63
3.12.1	Archive	64
3.12.2	Clip Copy	66
3.12.3	Load Default Setup	68
3.12.4	Clear All Data	68
4	Operation	69
4.1	Turning on the Power	69
4.2	Live Monitoring	69
4.2.1	Active Cameo Mode	70
4.2.2	PIP Mode	70
4.2.3	PTZ Mode	70

4.3	Recording Video.....	71
4.4	Recording Audio.....	71
4.5	Playing Recorded Video	72
4.5.1	Camera Buttons (1 to 16).....	72
4.5.2	Display Button	72
4.5.3	RW (Rewind) Button	72
4.5.4	PREV (Previous) Button	72
4.5.5	Stop Button	72
4.5.6	Next Button	72
4.5.7	FF (Fast Forward) Button.....	73
4.6	Searching Video.....	73
4.6.1	Change Data Source	73
4.6.2	Date/Time Search	74
4.6.3	Calendar Search	74
4.6.4	Event Search.....	75
5	Appendix A — USB-IDE Hard Disk Drive Preparation.....	78
5.1	Preparing the USB-IDE hard disk drive in Windows 2000.....	78
5.2	Preparing the USB-IDE hard disk drive in Windows 98.....	79
6	Appendix B — Reviewing Video Clips	80
7	Appendix C — Troubleshooting	82
8	Appendix D — Connector Pin Outs.....	83
8.1	Alarm I/O Connector and RS485 Connector Pin Outs.....	83
9	Appendix E — Connection Diagram	84
9.1	Sample I. Connecting the Dome Camera and SISTORE AX9/AX16	84
9.2	Sample II. Connecting the External Modem and SISTORE AX RAS	84
9.3	Sample III. Connecting the SISTORE AX and SCU	85
10	Appendix F — Recording Table.....	86
10.1	All 16 Channel Recording Times with 250 GB HDD (Days)	86
11	Appendix G — Screens Map	87
12	Appendix H — Specifications	88
13	Keyword Index.....	90

Preface

Compliance notice of FCC

This equipment has been tested and found to comply with the limits for a CLASS A Digital Device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate frequency energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.



WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This class of digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

The information in this manual is believed to be accurate as of the date of publication. Siemens is not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

Important Safeguards



WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- **Read Instructions**
All the safety and operating instructions should be read before the appliance is operated.
- **Retain Instructions**
The safety and operating instructions should be retained for future reference.
- **Cleaning**
Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.
- **Attachments**
Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.
- **Water and/or Moisture**
Do not use this equipment near water or in contact with water.
- **Accessories**
- Do not place this equipment on an unstable cart, stand or table. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.



- This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.
- **Power Sources**
This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.
- **Power Cords**
Operator or installer must remove power and TNT connections before handling the equipment.
- **Lightning**
For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges.
- **Overloading**
Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
- **Objects and Liquids**
Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

- **Servicing**
Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.
- **Damage requiring Service**
Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or the plug has been damaged.
 - If liquid is spilled, or objects have fallen into the equipment.
 - If the equipment has been exposed to rain or water.
 - If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.
 - If the equipment has been dropped, or the cabinet damaged.
 - When the equipment exhibits a distinct change in performance — this indicates a need for service.
- **Replacement Parts**
When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
- **Safety Check**
Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.
- **Field Installation**
This installation should be made by a qualified service person and should conform to all local codes.
- **Correct Batteries**
Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.
- **Tmra**
A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.
- **Elevated Operating Ambient Temperature**
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).
- **Reduced Air Flow**
Installation of the equipment in the rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- **Mechanical Loading**
Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

- **Circuit Overloading**
Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable Earthing (Grounding)**
Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).
- **Cable lengths**
For reasons of EMC the cable used for RS232, audio In / Out, SCSI connections and power supply must be not any longer than 3 meters.

1 Introduction

1.1 Features

Your color digital video recorder (DVR) provides recording capabilities for 9 or 16 camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- Efficient video compression through “MPEG4 Technology”
- 9 or 16 Composite Input Connectors
- Compatible with Color (PAL or NTSC) and B&W (CCIR and EIA-170) Video Sources
- Multiple Search Functions (Date/Time, Calendar, Event)
- Records up to 50 PAL Images per Second (60 NTSC Images per Second)
- “Loop-Through” Video Connectors
- Continuous Recording in Disk Overwrite Mode
- Video Archiving via Ultra SCSI Interface
- Continues Recording while Archiving, Transmitting to Remote Site and during Playback
- User-friendly Graphical User Interface (GUI) Menu System in Multiple Languages
- Two Record Modes (Time and Event)
- Audio Recording and Playback
- Alarm Connections Include: Input, Output and Reset Input
- Built-in Alarm Buzzer
- Live or Recorded Video Access via Ethernet or External Modem
-

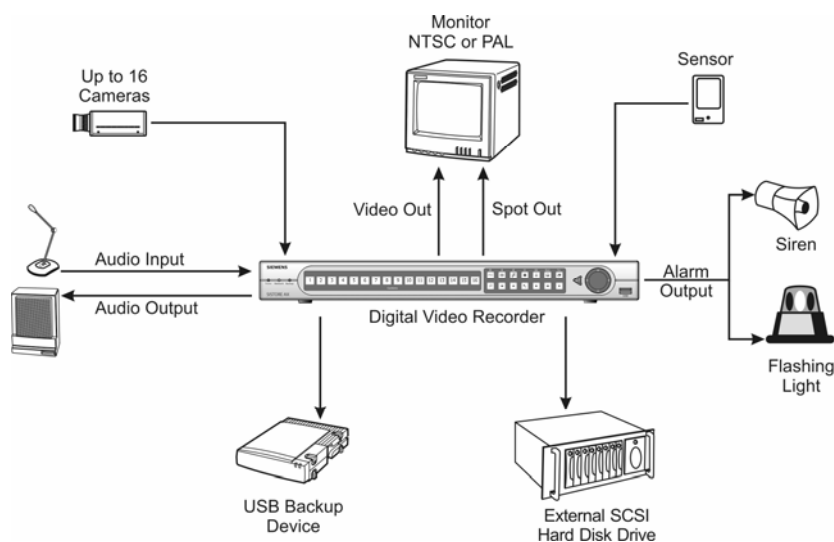


Fig. 1 Typical DVR installation.

1.2 Technical Overview

Your DVR can replace both a time-lapse VCR and a multiplexer in a security installation. However, it has many features that make it much more powerful and easier to use than even the most advanced VCR.

The DVR converts analog PAL or NTSC video to digital images and records them on a hard disk drive. Using a hard disk drive allows you to access recorded video almost instantaneously; there is no need to rewind tape. The technology also allows you to view recorded video while the DVR continues recording video.

Digitally recorded video has several advantages over analog video recorded on tape. There is no need to adjust tracking. You can freeze frames, fast forward, fast reverse, slow forward and slow reverse without image streaking or tearing. Digital video can be indexed by time or events, and you can instantly view video after selecting the time or event.

Your DVR can be set up for event or time-lapse recording. You can define times to record, and the schedule can change for different days of the week and user defined holidays.

The DVR can be set up to alert you when the hard disk drive is full, or it can be set up to record over the oldest video once the disk is full.

Your DVR uses a proprietary encryption scheme making it nearly impossible to alter video.

You can view video and control your DVR remotely by connecting via modem or Ethernet. There is a SCSI port that can be used to record or archive video to external hard disk drives, and also there are two USB ports that can be used to upgrade the system or copy video clips to external hard disk drives, CD-RW drives or flash drives.

NOTE:



This manual covers the 9- and 16-channel digital video recorders.

The DVRs are identical except for the number of cameras and alarms that can be connected and the number of cameras that can be displayed.

For simplicity, the illustrations and descriptions in this manual refer to the 16-camera model.

2 Installation

2.1 Package Contents

The package contains the following:

- Digital video recorder
- Adaptor (including power cord)
- Alarm I/O board
- Multilingual user's manual, multilingual RAS software and user's manual on CD-ROM
- CD-ROM
- Multilingual quick reference guide
- 19 inch bracket

2.2 Required Installation Tools

No special tools are required to install the DVR. Refer to the installation manuals for the other items that make up part of your system.

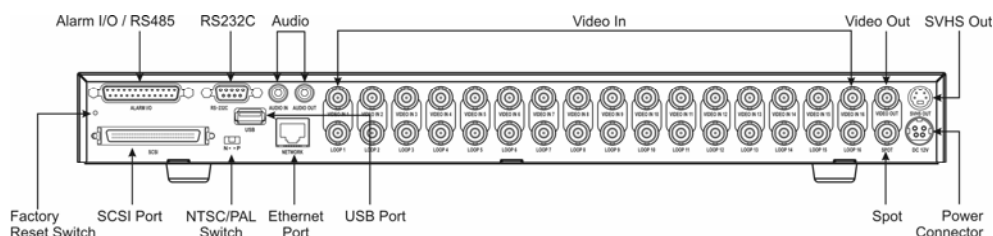


Fig. 2 16-Channel DVR rear panel.

2.3 Setting Unit for PAL or NTSC



N ◀ ▶ P

Fig. 3 PAL / NTSC switch.

Your DVR can be used with either PAL or NTSC equipment. Before turning on the DVR, set the switch to P (PAL) or N (NTSC) to match your equipment.



NOTE:

You cannot mix PAL and NTSC equipment. For example you cannot use a PAL camera and an NTSC monitor.



CAUTION

If you set the switch from PAL (NTSC) to NTSC (PAL), please do the *Factory Reset* and *Clear All Data*. If not, it causes the DVR to perform wrong operations.

2.4 Connecting the Video Source



Fig. 4 Video input connectors.

Connect the coaxial cables from the video sources to the BNC Video In connectors.

2.5 Connecting the Loop Through Video



Fig. 5 Video Loop Through connectors.

If you would like to connect your video source to another device, you can use the Loop BNC connectors.



NOTE:

The Loop BNC connectors are auto terminated. Do NOT connect a cable to the Loop BNC unless it is connected to another terminated device because it will cause poor quality video.

2.6 Connecting the Monitor

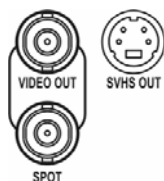


Fig. 6 Video Out connectors.

Connect the monitor to either the Video Out or SVHS Out connector.

Connect the spot monitor to the SPOT connector if required.



NOTE:

If your monitor has an SVHS input, use it for better quality video display.



NOTE:

The *Video Out* (BNC) and the *SVHS Out* connectors may be connected to individual monitors for simultaneous operation.

2.7 Connecting Audio


NOTE:

It is the user's responsibility to determine if local laws and regulations permit recording audio.



Fig. 7 Audio In and Out connectors.

Your DVR can record audio. Connect the audio source to Audio In. Connect Audio Out to your amplifier.


NOTE:

The DVR does not have amplified audio output, so you will need a speaker with an amplifier. The audio input can be from an amplified source or directly from a microphone.

2.8 Connecting Alarms

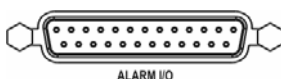


Fig. 8 Alarm Input/Output and RS485 connector

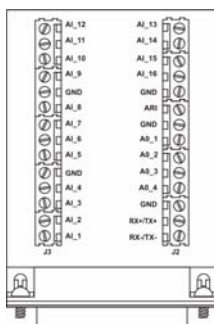


Fig. 9 Alarm Input/Output board and alarm connector strips

An Alarm I/O port (DB-25 male connector) is provided to connect the alarm inputs and alarm outputs. Connect the wires to connectors on the Alarm I/O board (supplied with the unit), and then connect the board to the Alarm I/O port.


CAUTION

Do not attempt to wire directly to the DB-25 male connector.


NOTE:

The Alarm I/O Board consists of alarm connector strips and RS485 connector.

2.8.1 AI 1 to 16 (Alarm In)

You can use external devices to signal the DVR to react to events. Mechanical or electrical switches can be wired to the AI (Alarm In) and GND (Ground) connectors. The threshold voltage is 4.3V and should be stable at least 0.5 seconds to be detected. See *Chapter 3 — Configuration* for configuring alarm input.

2.8.2 GND (Ground)



NOTE:

All the connectors marked GND are common.

Connect the ground side of the Alarm input and/or alarm output to the GND connector.

2.8.3 AO 1 and 4 (Alarm Out)

The DVR can activate external devices such as buzzers or lights. Connect the device to the AO (Alarm Out) and GND (Ground) connectors. AO is an active low open collector output which sinks 5 mA 12 V and 30 mA 5V. See *Chapter 3 — Configuration* for configuring alarm output.

2.8.4 ARI (Alarm Reset In)

An external signal to the Alarm Reset In can be used to reset both the Alarm Out signal and the DVR's internal buzzer. Mechanical or electrical switches can be wired to the AI (Alarm In) and GND (Ground) connectors. The threshold voltage is 4.3 V and should be stable at least 0.5 seconds to be detected. Connect the wires to the ARI (Alarm Reset In) and GND (Ground) connectors.

2.9 Connecting to the RS485

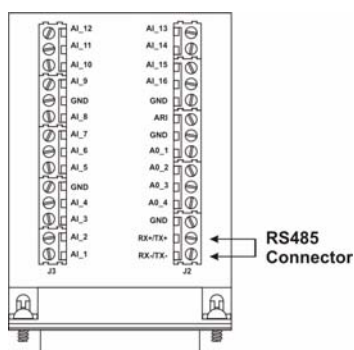


Fig. 10 RS485 connector

The DVR can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals. The RS485 connector can also be used to control PTZ (pan, tilt, zoom) cameras. Connect RX+ and TX+ of the control system to the RX+/TX+ of the DVR, and RX- and TX- to the RX-/TX-. See *Chapter 3 — Configuration* and the PTZ camera manufacture's manual for configuring the RS485 connection.

2.10 Connecting to the RS232 Port

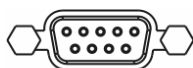


Fig. 11 RS232 connector

An RS232 port is provided to connect a remote control keyboard, or connect an external modem for remote monitoring, configuration and software upgrades. Use a modem cable with a DB-9 female connector to connect to the DVR. See *Chapter 3 — Configuration* for configuring the modem.



NOTE:

The DVR is not supplied with a modem cable, and many modems are not supplied with cables. Make certain you have the correct cable when purchasing the modem.

2.11 Connecting to the UltraWide SCSI Port

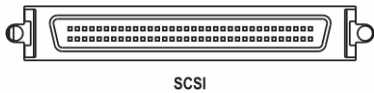


Fig. 12 SCSI connector

A SCSI port is provided to connect external storage devices for expanded storage. Connect the external SCSI hard disk drive (RAID) cable to the high-density 68-pin female UltraWide SCSI port. The length of SCSI cable should not exceed 1.5 meters. You can connect up to 15 UltraWide SCSI devices with SCSI IDs set to 0, 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14 and 15 respectively.



NOTE:
Do NOT set the SCSI ID to 7 because the ID number 7 was assigned to the Host.



NOTE:
The SCSI bus must be terminated properly, otherwise the DVR will not operate properly.



CAUTION
Do NOT connect the SCSI device while the DVR power is on. The DVR must be powered down to connect the SCSI device and powered up again after the SCSI device has been connected. Power up the SCSI device so it is ready for operation in advance of powering up the DVR.



CAUTION
If the SCSI device is shut down while the device is operating, the DVR system may not work normally.

2.12 Connecting to the Network Port



Fig. 13 Network connector.

The DVR can be networked using the 10/100 MB Ethernet connector. Connect a Cat5 cable with an RJ-45 jack to the DVR connector. The DVR can be networked for remote monitoring, searching, configuration and software upgrades. See *Chapter 3 — Configuration* for configuring the Ethernet connections.

2.13 Connecting to the USB Port

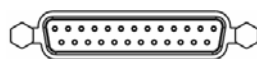


USB

Fig. 14 USB connector.

Two USB ports are provided to connect external hard disk drives, CD-RW or flash drive for clip copy or system upgrade. Position the external drive close enough to the DVR so that you can make the cable connections, usually less than 6 feet. Use the USB cable provided with the drive to connect it to the DVR.

2.14 Factory Reset



O

Factory Reset Switch

Fig. 15 Factory reset switch.

The DVR has a Factory Reset switch to the right of the USB port. This switch will only be used on the rare occasions that you want to return all the settings to the original factory settings.

**CAUTION**

When using the *Factory Reset*, you will lose any setting you have made.

To reset the unit, you will need a straightened paperclip:

1. Unplug the power to turn the DVR off.
2. Plug the power to turn it on again.
3. While the DVR is initializing, poke the straightened paperclip in the unlabeled hole above the PAL / NTSC switch.
4. Hold the switch until all the LEDs on the front panel are lit.

**NOTE:**

When the DVR successfully resets to factory defaults all the LEDs on the front panel flash three times.

5. Release the reset switch. All of the DVR's settings are now at the original settings it had when it left the factory.

2.15 Connecting the Power Cord

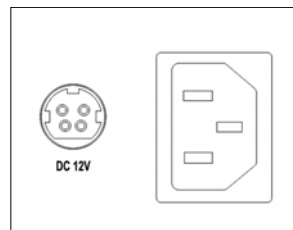


Fig. 16 Power cord connector.

Connect the DC power cord of the adaptor to the DVR, and connect the AC power cord to the adaptor and then to the wall outlet.



NOTE:

The power cord connector locks into position to prevent accidental power loss. Be sure to slide the release away from the socket before removing the plug.



WARNING

ROUTE POWER CORDS SO THAT THEY ARE NOT A TRIPPING HAZARD. MAKE CERTAIN THE POWER CORD WILL NOT BE PINCHED OR ABRADED BY FURNITURE. DO NOT INSTALL POWER CORDS UNDER RUGS OR CARPET.
THE POWER CORD HAS A GROUNDING PIN. IF YOUR POWER OUTLET DOES NOT HAVE A GROUNDING PIN RECEPTACLE, DO NOT MODIFY THE PLUG.
DO NOT OVERLOAD THE CIRCUIT BY PLUGGING TOO MANY DEVICES IN TO ONE CIRCUIT.

Your DVR is now ready to operate.

Refer to *Chapter 3 - Configuration* and *Chapter 4 - Operation*.

3 Configuration


NOTE:

Your DVR should be completely installed before proceeding. Refer to *Chapter 2 - Installation*.

3.1 Front Panel Controls

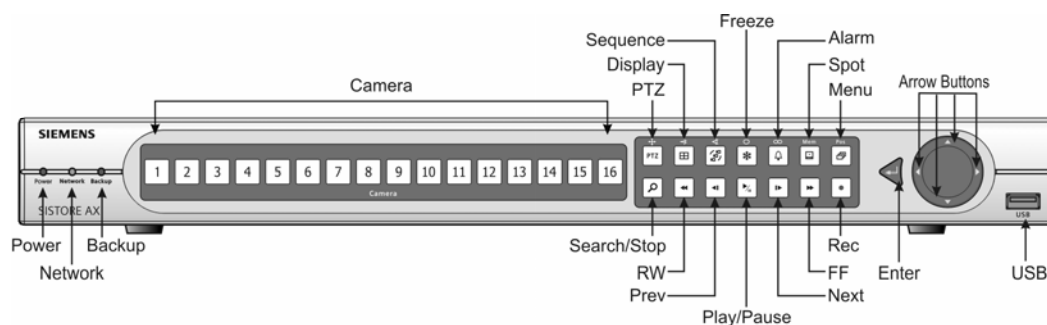


Fig. 17 16-Channel DVR front panel.

The front panel looks and operates much like a VCR combined with a multiplexer. Many of the buttons have multiple functions. The following describes each button and control. Take a few minutes to review the descriptions. You will use these to initially set up your DVR and for daily operations.

3.1.1 Power LED

The Power LED is lit when the DVR is on.

3.1.2 Network LED

The Network LED is lit when the unit is connected with RAS (Remote Administration System) either via Ethernet or modem.

3.1.3 Backup LED

The Backup LED is lit when data is being backed up using the USB port.

3.1.4 Camera Buttons (1 to 16)

Pressing the individual camera buttons will cause the selected camera to display full screen. They are also used to enter passwords.

3.1.5 Sequence Button

When in the live mode, pressing the **Sequence** button displays another full live channel sequentially. When in one of the multi-view formats, pressing this button will cause the DVR to sequence cameras in two sequence modes: "Page" and "Cameo". In the Page mode, the DVR sequences through user-defined screen layouts (pages). In the Cameo mode, the bottom, right screen to display live cameras sequentially. Pressing the **Sequence** button while in the Sequence mode will exit the Sequence mode. Zooms Out in PTZ mode.

3.1.6 Display Button

Pressing the **Display** button toggles between different display formats. The available formats are: full, 4 x 4, 3 x 3, 2 x 2 and PIP. Zooms In in PTZ mode.

3.1.7 PTZ Button

Pressing the **PTZ** button opens a Pan/Tilt/Zoom screen which allows you to control properly configured cameras.

3.1.8 Freeze Button

Pressing the **Freeze** button freezes the current live screen. Used for near Focus in the PTZ mode.

3.1.9 Alarm Button

The **Alarm** button has two functions. First, it will reset the DVR's outputs including the internal buzzer during an alarm. Second, it will display the event log when you are in the live monitoring mode unless there is an active alarm. This operation can be user password protected. Used for far Focus in PTZ mode.

3.1.10 Spot Button

Pressing the **Spot** button and pressing the individual camera buttons displays the selected camera on the spot monitor. For the sequence display on the spot monitor, press the **Spot** button and then **Sequence** button. Saves Presets in PTZ mode.

3.1.11 Menu Button

Pressing the **Menu** button enters the Quick Setup screen. You will need to enter the administrator password to access the Quick Setup. Pressing the button also closes the current menu or setup dialog box. Pressing the **MENU** button displays the Search menu while in the Playback mode. Pressing the button again closes the Search menu. Loads a Preset View in PTZ mode.

3.1.12 RW (Rewind) Button

Pressing the **RW** button plays video backward at high speed. Pressing the button again toggles the playback speed from **◀◀**, **◀◀◀** and **◀◀◀◀**. The screen displays **◀◀**, **◀◀◀** and **◀◀◀◀** respectively.

Entering Fast Backward Playback mode from Live Monitoring mode can be password protected.

3.1.13 PREV (Previous) Button

The **PREV** button only functions when playback video has been paused. Pressing the **PREV** button plays video backward image-by-image.

3.1.14 Search/Stop Button

Pressing the **Search/Stop** button displays the Search menu. Pressing the button again will exit the Search menu. This operation can be user password protected. Pressing the **Search/Stop** button during Playback mode returns the DVR to the Live Monitoring mode.

3.1.15 PLAY/PAUSE Button

Pressing the **PLAY/PAUSE** button plays back images at regular speed. Pressing the button while in the playback mode will pause the video. The screen displays **▶** when the DVR is playing back video. The screen displays **||** when in the Pause mode.

Entering Playback mode from Live Monitoring mode can be user password protected.

3.1.16 Next Button

The **Next** button only functions when playback video has been paused. Pressing the **Next** button plays video forward image-by-image.

3.1.17 FF (Fast Forward) Button


Pressing the **FF** button plays video forward at high speed. Pressing the button again toggles the playback speed from **▶▶**, **▶▶▶** and **▶▶▶▶**. The screen displays **▶▶**, **▶▶▶** and **▶▶▶▶** respectively.

Entering Fast Playback mode from Live Monitoring mode can be password protected.

3.1.18 REC (Record) Button

Press the **REC** button to set the DVR so that it is ready to record video, and **NOTHING** will stop the recording, except an end of disk condition when the unit is set to stop recording at the end of disk. A red dot appears on the screen when the DVR is recording video. Press the button again to stop recording video. This operation can be user password protected.

3.1.19 Enter Button

The  (Enter) button selects a highlighted item or completes an entry that you have made. It also sets or releases active cameo mode in the live or playback modes.

3.1.20 Up, Down, Left, Right Arrow Buttons


These buttons are used to navigate through menus and Graphic User Interface (GUI). They are also used to control Pan and Tilt when in the PTZ mode. The arrow buttons can be used to move the position of the active cameo screen, and also move through screen pages.

3.2 Turning on the Power

Connecting the power cord to the DVR turns on the unit. The unit will take approximately 60 seconds to initialize.

3.3 Initial Unit Setup

Before using your DVR for the first time, you will want to establish the initial settings. This includes items such as time and date, display language, camera, audio, remote control, record mode, network and password. Your DVR can be set up using various screens and dialog boxes.

Press the  button to enter the setup screens. The Admin Password screen appears.

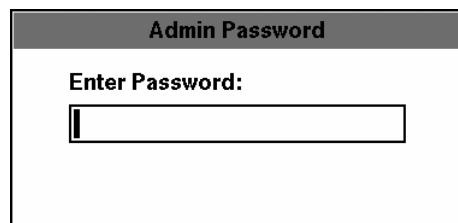


Fig. 18 Admin Password screen.

Enter the password by pressing the appropriate combination of Camera number buttons and then the Enter button. The factory default password is **4321**. There are two Setup screens: Quick Setup and Normal Setup. The factory default is the Quick Setup screen.



NOTE:

The setup screens can also be accessed by entering the User password if the User password is turned on. However, only access to the Clip Copy and Password setup screens is permitted.

3.4 Quick Setup Screen

Quick Setup – 3.1

Quick Setup

Recording Speed/Quality

Audio Recording

Sequence Dwell Time

Fig. 19 Quick Setup screen.

The Quick Setup screen allows you to set up the most commonly used features of your DVR. Use the arrow buttons to move through the options. Pressing the button lets you make your selections.



NOTE:

If you enter the *Quick Setup* screen by entering User password, only *Password* setup will be permitted.

- Highlight the box beside Quick Setup and press the button to toggle between On and Off. If you select Off, you will use the Normal Setup screen to change the DVR's settings.
- Highlight the Record Speed box and select recording speeds from as few as one image every 10 seconds to as fast as 50 ips PAL (60 ips NTSC).
- Highlight the Record Quality box and select from Very High, High, Standard and Low.
- Highlight the box beside Audio Recording and select either On or Off.



NOTE:

It is the user's responsibility to determine if local laws and regulations permit recording audio.

- Highlight the box beside Sequence Dwell Time and select from 3 to 60 seconds for the camera sequence dwell time.
- Selecting System Information... enters that screen.
- Selecting Storage... enters a screen where you can check the storage status.
- Selecting Camera... enters a screen where you can set up camera information.
- Selecting Network Setup... enters a screen where you can set up network information.
- Selecting Password... enters a screen where you will be able to change passwords.
- Selecting Date/Time... enters a screen where you will be able to set the DVR's time and date.
- Selecting System Shutdown... shuts the DVR down. When shutting down the DVR, you need to confirm that you want to shut down the unit, and you will be asked for an administrator password.

3.5 Normal Setup Screen

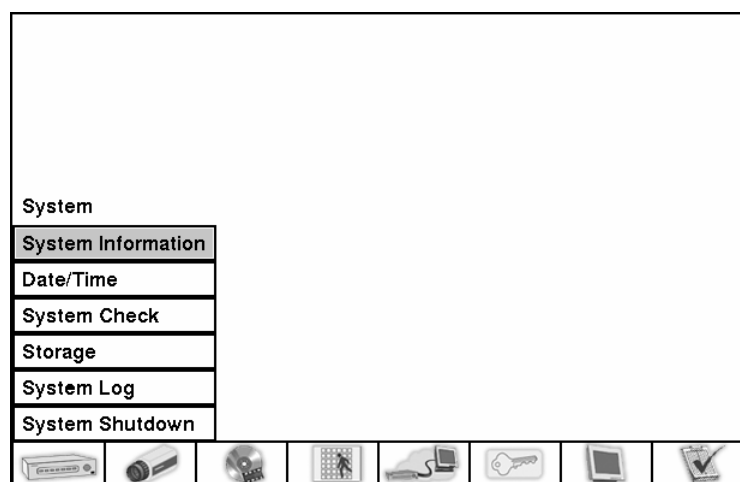


Fig. 20 Normal Setup screen.

Press the **Menu** button to enter the setup screen. If the Quick Setup screen appears, turn it off as described above. The Normal Setup screen gives you access to all the DVR's setup screens.



NOTE:

Switching between *Quick Setup* and *Normal Setup* returns their settings to the factory default settings.

3.5.1 System Information

Highlight System Information and press the **Enter** button. The System Information screen appears.

System Information - 3.1	
Site Description	<input type="text"/>
Unit ID	<input type="text" value="0"/>
Language	<input type="text" value="English"/>
Disk Usage	<input type="text" value="10.8 GB remains / 39.9GB total"/>
Recorded From	<input type="text" value="2001-11-06 21:03:05"/>
To	<input type="text" value="2001-11-12 13:25:51"/>
IP Address	<input type="text" value="192.168.1.129"/>
<input type="button" value="Change"/>	
<input type="button" value="Close"/>	

Fig. 21 System Information screen.

In the System Information screen, you can name the site location, assign a unit ID number, select the language for the screen display and upgrade the software. Highlight Change and press the **Enter** button. The System Information Change screen appears.

System Information Change

Site Description

Unit ID

Language

Version

Fig. 22 System Information Change screen.

- Highlight the box beside Unit ID and press the button. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number. The Unit ID number is used to identify the unit when it is networked with other DVRs. You cannot use the same number for two or more DVRs that are within the same network.
- Highlight the box beside Language and press button. A dropdown menu displays the available languages. Highlight the desired language and press the button.

System Information Change

Site Description

Unit ID

Language

Version

English
Français
Deutsch
Italiano
Español
Dansk
Dutch

Fig. 23 Language dropdown menu.







- Highlight the box beside Site Description and press the button. A virtual keyboard displays.

Site Description

Site 01

a	b	c	d	e	f	g	h	i	j	k	l	M
n	o	p	q	r	s	t	u	v	w	x	y	Z
1	2	3	4	5	6	7	8	9	0	-	=	\
[]	;	'	,	.	/	'					Space


Fig. 24 Virtual keyboard.

- Use the arrow keys to highlight the first character you want in the Site Title and press the  button. That character appears in the title bar and the cursor moves to the next position. Pressing  toggles between the upper and lower case keyboards,  backspaces, and  deletes entered characters. You can use up to 20 characters including spaces in your title.
- Once you have entered your title, highlight Close and press the  button.
- After you have created a title, assigned a unit ID number and selected a language, you can save your changes by highlighting OK and pressing the  button. Selecting Cancel exits the screen without saving the changes.
- The box beside Version displays the software version of the DVR.



NOTE:

You can upgrade the software only in the System Information Change screen.

- To upgrade the software, connect the USB device containing the upgrade package file to the DVR. Highlight Upgrade... and press the  button. The System Upgrade screen appears. The screen displays the upgrade package file name.



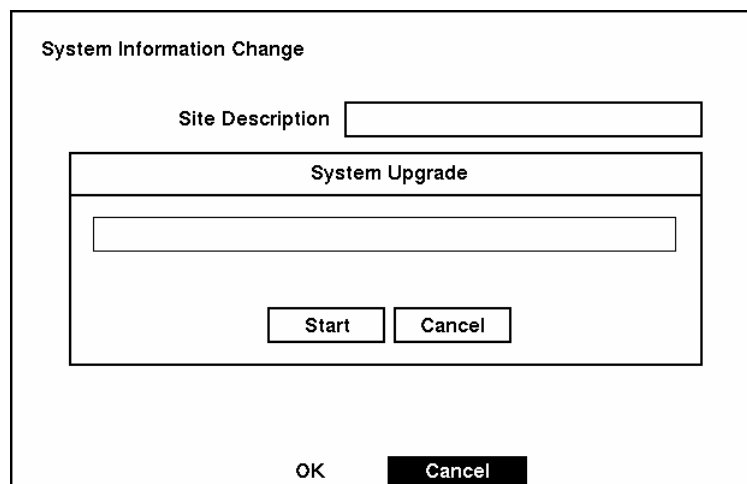
CAUTION

System upgrade via USB port might NOT be completed properly if the USB device has been connected to the other USB port. Please remove any other USB device before system upgrade is attempted.



NOTE:

If the file system on the USB-IDE hard disk drive or USB flash drive is NOT FAT16 or FAT32 format, format the drive using FAT16 or FAT32 format.



The screenshot shows a 'System Information Change' window. At the top is a 'Site Description' label followed by a text input field. Below this is a 'System Upgrade' section, which contains another text input field for a file name. Under the file name field are two buttons: 'Start' and 'Cancel'. At the bottom of the main window are two more buttons: 'OK' and 'Cancel'.

Fig. 25 System Upgrade screen.

- Select Start and enter the Admin password to start the upgrade. The system restarts automatically after completing the upgrade.



NOTE:


Only the system administrator can upgrade the software.

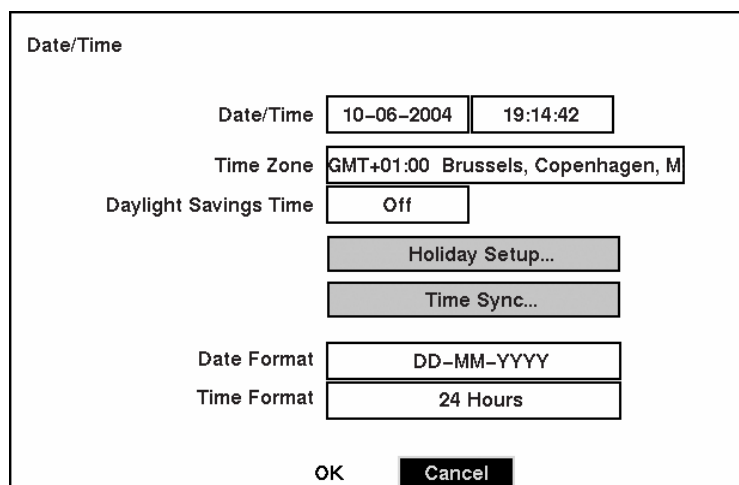


NOTE:

You cannot upgrade software during clip copy.

3.5.2 Date/Time Setup

Highlight Date/Time in the Main Menu and press the  button. The Date/Time setup screen appears.



The screenshot shows the 'Date/Time' setup screen. It contains the following fields and options:





- Date/Time:** Two input boxes showing '10-06-2004' and '19:14:42'.
- Time Zone:** A dropdown menu showing 'GMT+01:00 Brussels, Copenhagen, M'.
- Daylight Savings Time:** A dropdown menu showing 'Off'.
- Holiday Setup...:** A button.
- Time Sync...:** A button.
- Date Format:** A dropdown menu showing 'DD-MM-YYYY'.
- Time Format:** A dropdown menu showing '24 Hours'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

Fig. 26 Date/Time setup screen.



CAUTION









If you set a date and time that is older than some of your recorded images, any images with dates and times later than the new setting will be deleted.

- Highlight the first box beside Date/Time and press the  button. The individual sections of the date will highlight. Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between month, date and year. Once you have the correct date, press the  button.
- Highlight the second box beside Date/Time and press the  button. The individual sections of the time will highlight. Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between hour, minutes and seconds. Once you have the correct time, press the  button.



NOTE:

The clock will not start running until you have restarted the unit, so you may wish to set the time last.

- Highlight the box beside Time Zone and press the  button. Select the time zone you are in from the list and press the  button.
- Highlight the box beside Daylight Saving Time and press the  button. Pressing the  button toggles between On and Off.
- Highlight the Holiday Setup... box and press the  button. You can set up holidays by highlighting Add: and pressing the  button. The current date appears.
- Highlight the month and day and change them by using the Up and Down arrow buttons. Press the  button to add the date. Dates can be deleted by highlighting the X beside the date and pressing the  button.



NOTE:

Holidays that do not fall on the same date each year should be updated once the current year's holiday has passed.

No.	Date	
1	07-04-yyyy	X
2	12-25-yyyy	X
		X
		X
		X
		X

2 ▲ ▼ Add...

OK Cancel

Fig. 27 Holiday Setup screen.

- You can save your changes by highlighting OK and pressing the button. Selecting Cancel exits the screen without saving the changes.
- Highlight the Time Sync... box and press the button. You can set up time synchronization between the DVR and standard time servers that are available in most time zones and countries or between the DVR and another DVR.

Time Sync

Automatic Time Sync

SNTP Server

Interval

System Clock

Server Clock

Next Synchronization

Run as Server

OK Cancel


Fig. 28 Time Sync screen.

- Highlight the box beside Automatic Time Sync and press the button. This toggles between On and Off.
- Highlight the box beside SNTP Server and press the button. Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number value.
- Highlight the box beside Interval and press the button. Set the time interval for synchronization from 1 to 300 minutes.
- The box beside System Clock displays the DVR's time setting.
- The box beside Server Clock displays the time setting of the time server. Highlighting the Update button and pressing the button updates the server clock.



NOTE:

The Server Clock will display “—” when the DVR cannot load the time information from the time server.








- The box beside Next Synchronization displays the scheduled time for the next synchronization. If you want to synchronize the time instantly, highlight the Now... button and press the  button.

**CAUTION**


When selecting Now..., any video with a later time and date will be lost if the time and date of a time server is earlier than the last recorded image of the DVR.

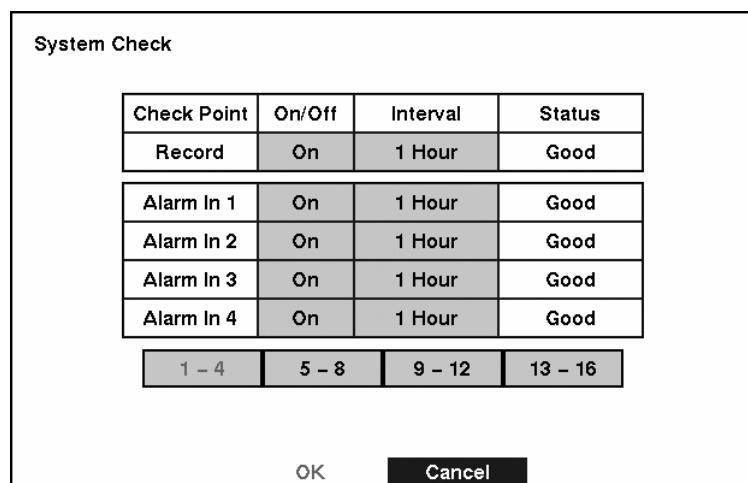
**NOTE:**

When the time difference between the DVR and the time server is more than one minute, the DVR might not synchronize the time to prevent an unexpected loss of recorded video data. If you want to synchronize the time manually, select Now....

- Highlight the Run as Server box and press the  button. Pressing the  button toggles between On and Off. When it is On, the DVR you are setting up will run as a time server.
- You can save your changes by highlighting OK and pressing the  button. Selecting Cancel exits the screen without saving the changes.
- Highlight the box beside Date Format and press the  button. A list of date formats appears. Highlight the format you wish to use and press the  button. The choices are:
MM-DD-YYYY
DD-MM-YYYY
YYYY-MM-DD
MM/DD/YYYY
DD/MM/YYYY
YYYY/MM/DD
- To change the time format, highlight the box beside Time Format and press the  button. The DVR toggles between 12 Hours (AM/PM) and 24 Hours (military time).
- You can save your changes by highlighting OK and pressing the  button. Selecting Cancel exits the screen without saving the changes.

3.5.3 System Check Screen

Highlight System Check in the Main menu and press the  button. The System Check setup screen appears.





System Check

Check Point	On/Off	Interval	Status
Record	On	1 Hour	Good
Alarm In 1	On	1 Hour	Good
Alarm In 2	On	1 Hour	Good
Alarm In 3	On	1 Hour	Good
Alarm In 4	On	1 Hour	Good


1 - 4	5 - 8	9 - 12	13 - 16
-------	-------	--------	---------

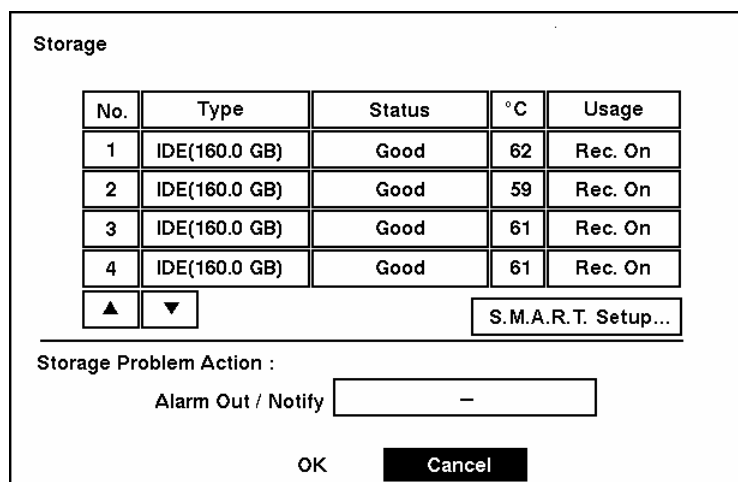
OK Cancel

Fig. 29 System Check screen.

- Highlight the box under the On/Off heading and press the  button. This toggles between On and Off. When it is On, the DVR reports a fault condition if it does not detect any recording or if there is an alarm during the designated time.
- Highlight the box under the Interval heading and press the  button. A slide bar appears allowing you to set the check interval from 1 Hour to 30 Days by using the Left and Right arrow buttons.
- The Status field displays the fault conditions. When it is Good, there was recording or an alarm occurred during the designated time. When it is Bad, there was no recording or no alarm occurred during the designated time.

3.5.4 Storage Screen

Highlight Storage in the Main menu and press the  button. The Storage setup screen appears. The DVR displays the storage status when the installed IDE hard disk drives support the S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) monitoring program.



The screenshot shows the 'Storage' screen with a table of storage devices. Below the table are navigation arrows, an 'S.M.A.R.T. Setup...' button, and a 'Storage Problem Action' section with an 'Alarm Out / Notify' field and 'OK'/'Cancel' buttons.

No.	Type	Status	°C	Usage
1	IDE(160.0 GB)	Good	62	Rec. On
2	IDE(160.0 GB)	Good	59	Rec. On
3	IDE(160.0 GB)	Good	61	Rec. On
4	IDE(160.0 GB)	Good	61	Rec. On

▲ ▼ S.M.A.R.T. Setup...

Storage Problem Action :

Alarm Out / Notify

OK Cancel

Fig. 30 Storage Check screen.

When the DVR has more than four storage devices, you can scroll through the list by selecting the Up and Down arrow buttons.

The Type field displays the type and capacity of storage devices.

The Capacity field displays the storage capacity.

The Status field displays "Good", "Bad", "S.M.A.R.T. Not work", "S.M.A.R.T. Alert", "High Temperature" or "Not installed", depending on storage conditions.

- Good — The storage condition is normal.
- Bad — Data cannot be written to or read from the storage device.
- S.M.A.R.T. Not work — Storage conditions are normal, however, the S.M.A.R.T. monitoring is not working or supported
- S.M.A.R.T. Alert — S.M.A.R.T. monitoring has detected a fault condition.
- High Temperature — S.M.A.R.T. monitoring has detected that the temperature of storage device exceeded the preset temperature threshold.
- Not installed — The storage device is not installed.



NOTE:

Once the "S.M.A.R.T. Alert" message displays, replacing the hard disk drive is recommended, usually within 24 hours.

The °C field displays the temperature of the storage device.

The Usage field displays the device usage.



NOTE:

When the device is an IDE hard disk drive, you can change its usage to either *Rec. On* or *Rec. Off*.
When the device is a SCSI hard disk drive, you can change its usage to either *Extension* or *Archive..*

**CAUTION**

A “–” displays when connecting a hard disk drive that was previously used for something else. In this situation, device usage can be changed as desired usages; e.g., *Extension* to *Archive* or *Archive* to *Extension*. However, data on the device will be lost if the device usage is changed.

The DVR can be set to react to storage problems by activating an internal buzzer or external alarms, and/or notifying a PC running RAS (Remote Administration System). Highlight the box beside Storage Problem Action: Alarm Out / Notify and press the button to select from Beep, the alarm output terminal that you want to associate with the storage problem event, and/or Notify.

Highlight S.M.A.R.T. Setup... and press the button. The S.M.A.R.T. Setup screen appears.

Fig. 31 S.M.A.R.T. Setup screen.

Your DVR shows the condition of the hard disk drives if the installed IDE hard disk drives support the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) program. Highlight the box beside Use. Press the button to toggle between On and Off.


- The Last-check field displays the date and time information of the last storage check.
- Highlight the box beside Period, and select from Daily, Weekly or Monthly for the check interval.

**NOTE:**

When selecting *Weekly* or *Monthly*, the *Day of Week* or *Day of Month* field will display under the *Period* field. Select the check day or date.

- Highlight the box beside Check Time, and adjust the numbers using arrow buttons.
- Highlight the box beside Temperature Threshold and adjust the numbers using arrow buttons. Set the temperature number to the hard disk drive manufacturer's specifications. If this temperature is ever exceeded, the S.M.A.R.T. Alert message will display.
- Highlight the box beside Sensor Unit and select from Celsius or Fahrenheit.
- You can save your changes by highlighting OK and pressing the button. Selecting Cancel exits the screen without saving the changes.

3.5.5 System Log Screen




Highlight System Log in the Main menu and press the  button. The System Log screen appears.

System Log		
No.	Event	Date/Time
1283	Setup Begin (Local)	2002-01-24 10:27:14
1282	System Started	2002-01-24 10:27:12
1281	Shutdown	2002-01-24 10:27:02
1280	System Time Changed	2002-01-24 10:27:00
1279	Setup Begin (Local)	2002-01-24 10:26:08
1278	System Started	2002-01-24 10:26:02
1277	Recovered from Power Failure	2002-01-24 10:26:02


Close

Fig. 32 System Log screen.

The System Log screen displays a record of various events logged by the DVR. The list shows the dates and times the system was turned ON and OFF, power failed, recording was started or stopped, playback was started or stopped, setup changes were made, and data banks were cleared.

The events are listed from the most recent to the oldest. You can scroll through the list a page at a time by selecting the Up and Down arrow buttons and pressing the  button. You can go directly to an event number by highlighting the event number box (left of the UP arrow), pressing the  button, using the arrow buttons to change the number, and pressing the  button.

3.5.6 System Shutdown

Highlight System Shutdown in the Main menu and press the  button. This shuts the DVR down. When shutting down the DVR, you need to confirm that you want shut down the unit, and you will be asked for an administrator password.

3.6 Configuring Input Devices

You can configure the video, audio and remote control devices connected to the DVR.

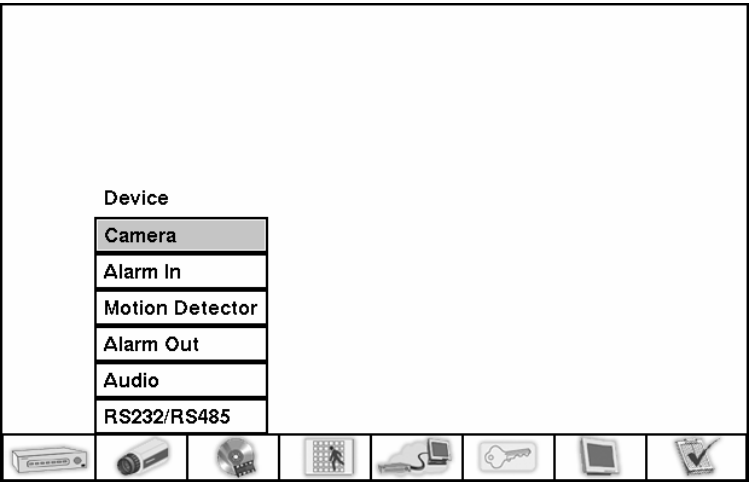



Fig. 33 Device menu screen.

3.6.1 Camera Setup Screen

Highlight Camera in the Main menu and press the  button. The Camera setup screen appears.

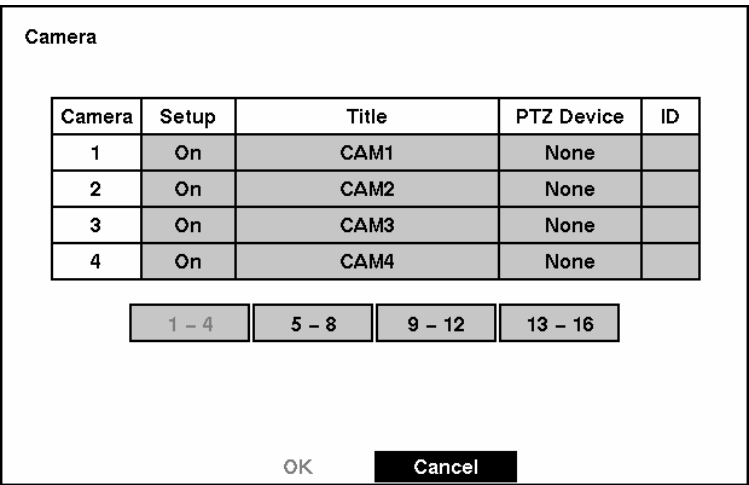




Fig. 34 Camera setup screen.

The Camera setup screen displays the camera inputs in groups of four: 1 to 4, 5 to 8, 9 to 12 and 13 to 16.


You can turn the camera number on or off and also hide the video from a camera by highlighting the camera Setup heading and pressing the  button. Select from On, Off, Covert 1 or Covert 2.



NOTE:
When set to Covert 1, the DVR displays the camera title and status icons on the covert video. When set to Covert 2, the DVR displays only the camera title on the covert video.

You can assign titles to each camera by highlighting the camera title box and pressing the  button. A virtual keyboard allows you to enter camera names.

Selecting the PTZ Device box causes a list of controllable cameras to display.

Select your camera from the list and press the  button. You will need to connect the camera to the RS485 terminal on the back of the DVR following the camera manufacturer's instructions.

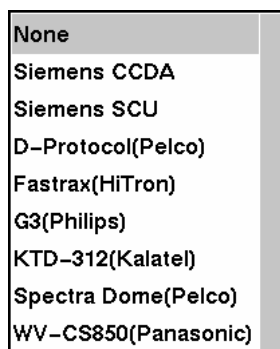




Fig. 35 PTZ Device list.

You can assign IDs to each camera by highlighting the ID heading and pressing the  button. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number. The PTZ ID number can be set from 0 to 256.

3.6.2 Alarm In Setup Screen

Highlight Alarm In in the Main menu and press the  button. The Alarm In setup screen appears.

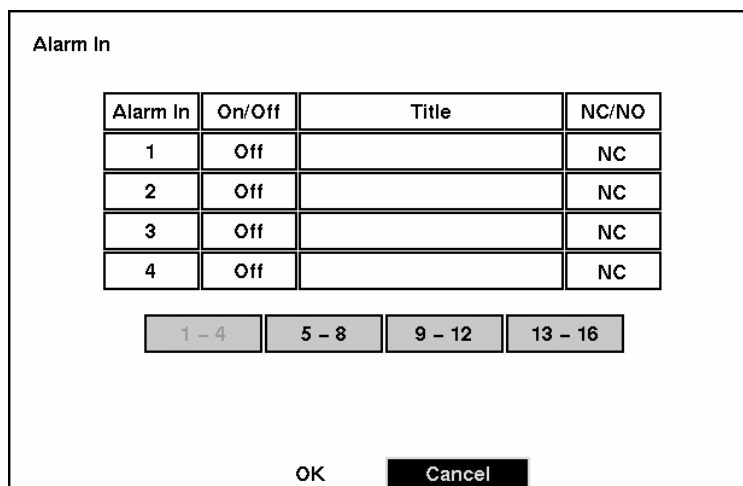


Fig. 36 Alarm In setup screen.

The alarm terminal strip on the back of the DVR has inputs associated with each alarm. You can set up each input on the Alarm In Setup screen. The inputs are displayed in groups of four. You can turn each input On or Off. Each input can be given a title, and the inputs can be set as NO (normally open) or NC (normally closed) independently.

3.6.3 Motion Detector

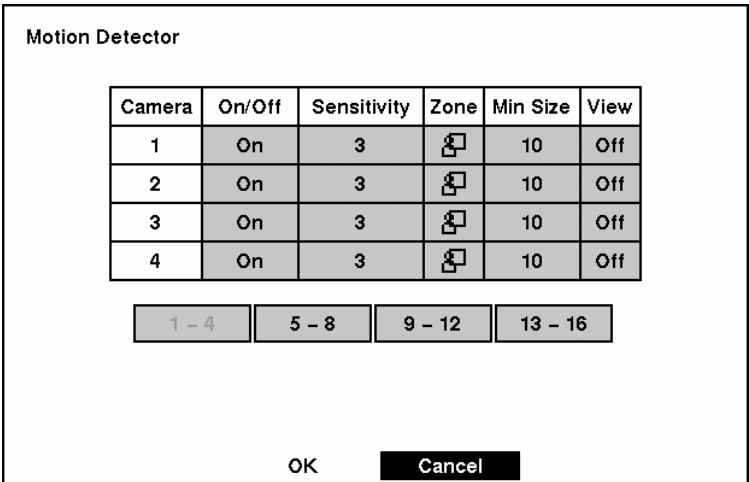


Fig. 37 Motion Detector setup screen.

Your DVR has built-in video motion detector. Video motion detection can be turned On or Off for each camera.

Highlighting the box under the Sensitivity heading allows you to adjust the DVR's sensitivity to motion. There are five settings with 1 being the least sensitive and 5 being the most sensitive.

You can adjust the minimum number of detection blocks that must be activated to trigger a motion alarm. Highlight a box under the Min Size heading and adjust the number. The smaller the number, fewer detection blocks must be activated and therefore more sensitive.

Turning the View setting On will allow you to observe how the DVR is reacting to motion. When in the motion viewing mode, the detection zone of video will be displayed in green. Any detected motion within the zone will be displayed in red.

You can define the area of the image where you want to detect motion; e.g., a doorway. Highlight the icon under the Zone heading, and press the button. The Motion Detection Zone screen will display.

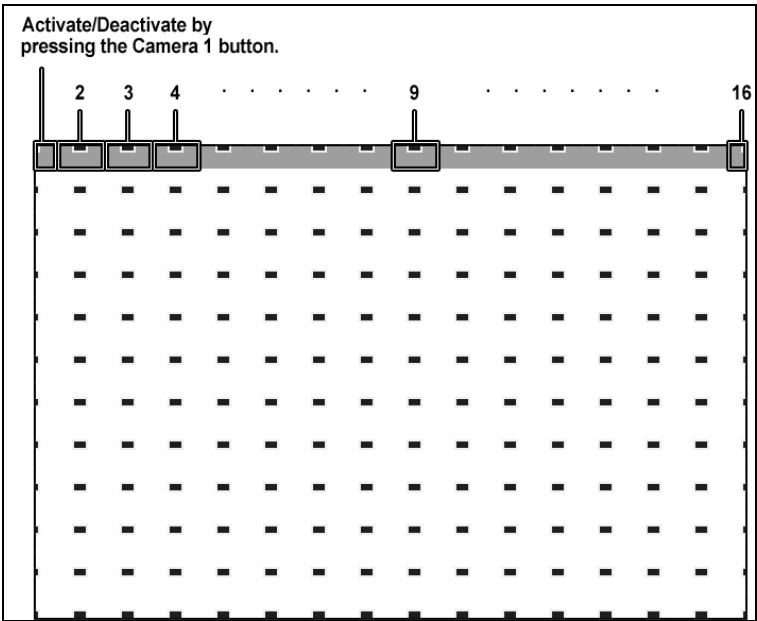



Fig. 38 Motion Detection Zone screen.

The Motion Detection Zone screen is laid over the video for the selected camera. You can set up motion detection zones by selecting or clearing blocks.

**NOTE:**

You can set up motion zones one block at a time in groups of 9 or 16 individual block groups (9- and 16-channel DVR respectively). A block group is positioned within the image area using the Up and Down arrow buttons, and individual blocks within the block groups are selected or cleared using the camera buttons.

Press the  button to display the menu screen. The menu on the setup screen has the following functions:

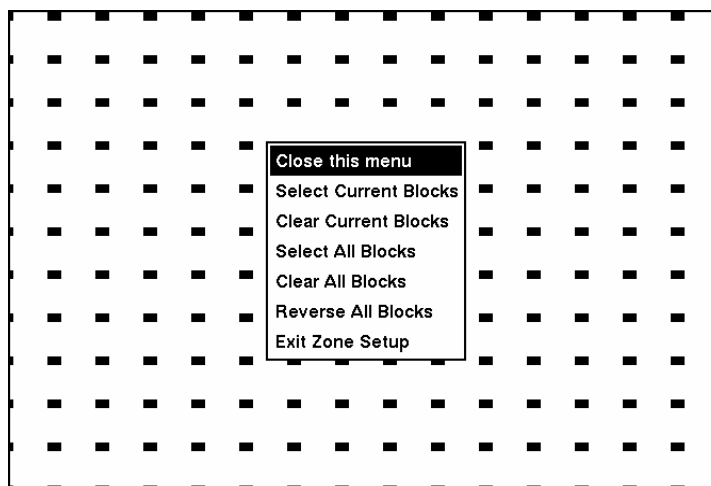


Fig. 39 Motion Detection Zone screen.

- Close this menu — Closes the menu so that you can see the entire screen.
- Select Current Blocks — Activates highlighted blocks to detect motion.
- Clear Current Blocks — Deactivates highlighted blocks so that they will not detect motion.
- Select All Blocks — Activates all blocks to detect motion.
- Clear All Blocks — Deactivates all blocks so that they will not detect motion.
- Reverse All Blocks — Activates inactive blocks and deactivates active blocks.
- Exit Zone Setup — Asks you to confirm changes and then returns to the previous screen.

3.6.4 Alarm Out Setup Screen


The Alarm Out setup screen allows you to establish a schedule for each alarm output from the DVR.


Alarm Out

Alarm Out	Title	Sched
1		<input checked="" type="checkbox"/>
2		<input checked="" type="checkbox"/>
3		<input checked="" type="checkbox"/>
4		<input checked="" type="checkbox"/>
Beep	Beep	<input checked="" type="checkbox"/>

OKCancel

Fig. 40 Alarm Out setup screen.

Each alarm output can be given its own title by highlighting the box under the Title heading and pressing the  button. A virtual keyboard appears allowing you to enter the title.

Highlighting the Sched field and pressing the  button opens a schedule screen. You can schedule alarm output in 30-minute increments from 0:00 to 24:00.

Alarm Out 1 Schedule


024681012246810

S	
M	
T	
W	
T	
F	
S	
H	

■ On ■ Event


OKCancel

Fig. 41 Alarm Out Schedule screen.

You can select individual blocks of time, entire days of the week, entire blocks of time or the entire schedule. Select a specific block of time by highlighting it. Select an entire day by highlighting the day of the week or Holiday on the left of the screen. Select an entire block of time by highlighting the time at the top of the screen. Select the entire screen by highlighting the empty box in the upper left corner of the screen. Press the  button from No Arming (no block) to On (blue block) to Event (yellow block).

When set to On, the Alarm Out is active during the scheduled time. When set to Event, the Alarm Out is only active when there is an Event during the scheduled time.

3.6.5 Audio Setup Screen

Highlight Audio in the Main menu and press the  button. The Audio Setup screen appears.

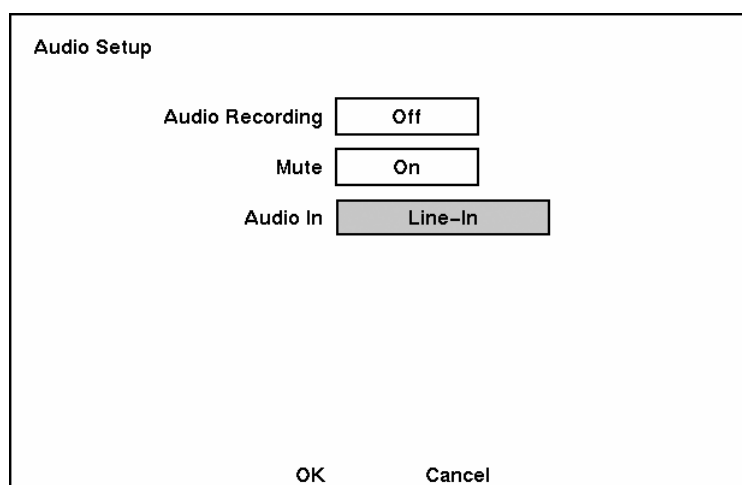






Fig. 42 Audio Setup screen.

Highlight the box beside Audio Recording and press the  button. This toggles between On and Off. When it is On, the DVR also records audio when it is recording video.

Highlight the box beside Mute and press the  button. This toggles between On and Off. When it is On, the DVR will NOT play live or recorded audio.

Highlight the box beside Audio In. Pressing the  button toggles between Mic In and Line In. Mic In is for an un-amplified source while Line In is for an amplified source.

You can save your changes by highlighting OK and pressing the  button. Selecting Cancel exits the screen without saving the changes.

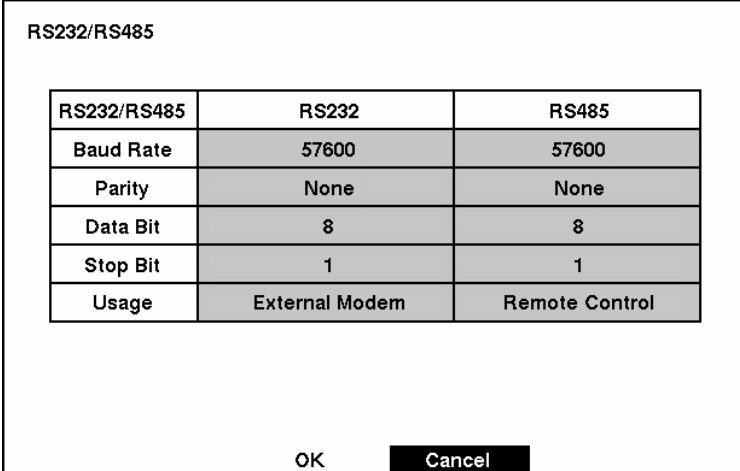


NOTE:

If you set up the recording speed less than 1 ips, the DVR will NOT guarantee the standard quality audio playback.

3.6.6 RS232/RS485 Setup Screen

The RS232/RS485 setup screen allows you to set up the RS232 and RS485 ports to communicate with external devices such as modems, remote controls and dome cameras.



RS232/RS485	RS232	RS485
Baud Rate	57600	57600
Parity	None	None
Data Bit	8	8
Stop Bit	1	1
Usage	External Modem	Remote Control

OK Cancel

Fig. 43 RS232/RS485 setup screen.

Highlight the field for the settings you wish to make. Select the correct Baud Rate, Parity, Data Bits and Stop Bits for the device you are connecting to the DVR.

For RS485, it is possible to select either Remote Control or PTZ Control in the Usage field.

It is possible to select either External Modem or Remote Control in the RS232 — Usage field, and select either Remote Control or PTZ Control in the RS485 — Usage field.



NOTE:

Both the RS232 and RS485 ports cannot be configured to communicate with remote controls at the same time.



NOTE:

If networking is configured by the external modem, the RS232 port cannot be set up for the remote control. In the *Network Setup* menu, set up the DVR for LAN connections first.

3.7 Configuring Recording Settings


NOTE:

Pressing the **REC** button on the front of the DVR will cause the red LED above the button to light and indicates the DVR is ready to record. However, this does not mean the DVR is recording. The DVR records video based on the parameters such as schedule and events defined during configuration. The red dot appears on the monitor when the DVR is recording.

Your DVR offers a variety of flexible recording modes. You can set it up to record all the time or to only record events. It can be set up to continue recording once the hard disk drive is full by recording over the oldest video, or you can set it up to alert you when the hard disk is full and stop recording.

3.7.1 Record Mode Setup Screen

The image shows a 'Record Mode Setup' screen with the following settings:

Record Resolution	Standard
End Of Disk	Stop
On Disk Full :	
Beep	Off
Alarm Out	Off
Field Detect	On
Auto Deletion	Off 1 Day
OK Cancel	

Fig. 44 Record Mode Setup screen.

- Highlight the box beside Record Resolution and press the button. This toggles between Standard and High. When set to Standard, the DVR records video with the resolution similar to VHS quality. When set to High, the DVR records video with the resolution similar to DVD quality.


NOTE:

When the Record Resolution is set to High, the recording and playback speed will be decreased in half.


NOTE:

The Record Resolution will be fixed to Standard when the DVR is in the Quick Setup mode.

- Highlight the box beside End Of Disk and press the button. This toggles between Overwrite and Stop. When in the Overwrite mode, the DVR continues recording when the hard disk drive is full by overwriting the oldest video. When in the Stop mode, the DVR stops recording when the hard disk drive is full.
- If the DVR is set to the Stop mode, you can set it to beep or activate the Alarm Out AO1 port when the hard disk drive is full. Highlight the box beside On Disk Full: Beep and press the button to toggle between On and Off. Highlight the box beside On Disk Full: Alarm Out and press the button to toggle between On and Off.

- Highlight the box beside Field Detect. Pressing the ☐ button toggles between On and Off. When set to On, the Field Detection helps prevent shaking in the Simplex mode. It does this by recording odd numbered fields from odd numbered cameras and even numbered fields from even numbered cameras.
- Highlight the first box beside Auto Deletion. Pressing the ☐ button toggles between On and Off. When set to On, the DVR will delete video recorded prior to the user-defined period. Highlight the second box beside Auto Deletion and press the ☐ button to select the length of time recorded data will be kept (from 1 to 99 days).
- You can save your changes by highlighting OK and pressing the ☐ button. Selecting Cancel exits the screen without saving the changes.

3.7.2 Time-Lapse Record Mode Setup Screen

Time-Lapse Record Setup

Camera	Sched	Mode 1		Mode 2	
		Speed	Quality	Speed	Quality
1	<input checked="" type="checkbox"/>	50 ips	Standard	50 ips	Standard
2	<input checked="" type="checkbox"/>	50 ips	Standard	50 ips	Standard
3	<input checked="" type="checkbox"/>	50 ips	Standard	50 ips	Standard
4	<input checked="" type="checkbox"/>	50 ips	Standard	50 ips	Standard

1 - 4 5 - 8 9 - 12 13 - 16

Keep the continuous pictures Off 1 Hour

OK Cancel


Fig. 45 Time-Lapse Record Setup screen.

- Highlight the box under Speed and press the ☐ button. A drop-down list of record speeds appears. You can select from 1 image per 10 seconds to 50 images per second for PAL (to 60 images per second NTSC).



NOTE:

If you have set the Record Resolution for High, you will not be able to select 50 ips PAL (60 ips NTSC).

- Highlight the box under Quality and press the  button. A drop-down list appears. You can select from Very High, High, Standard and Low image quality. All other variables being equal; Very High will require 600% more hard disk space than Standard, High will require 250% more, and Low 30% less.

**NOTE:**

Higher quality images require more storage space and will reduce the recording capacity of the hard disk drive.

You can set the maximum amount of time-lapse video to be stored. Once the DVR reaches this amount, it will start recording over the oldest time-lapse video. The time-lapse video is stored separate from Event video.

When Keep the continuous pictures is set to On, you can set the time from 1 Hour to the maximum allowed by the storage capacity of your hard disk drive.

**NOTE:**

The maximum storage time is only an estimate because the amount of space required to store video varies depending on many factors such as motion and image complexity.

3.7.3 Time-Lapse Recording Schedule

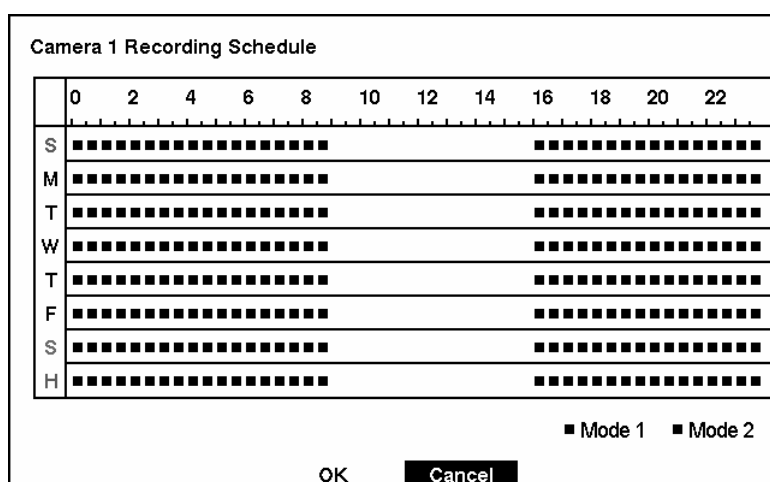






Fig. 46 Time-Lapse Recording Schedule screen.

You can program the DVR to record only during certain times based on time, day of the week, and holidays. The smallest time segment you can use is 30 minutes. A blue rectangle indicates the DVR is set to record during those 30 minutes. When there is no rectangle, the DVR will not record during those 30 minutes.

There are several ways to set recording times:

- You can highlight an individual block and toggle it On or Off by pressing the  button.
- You can change a 30-minute segment for all days by placing the cursor on the time line and pressing the  button to toggle the segment On or Off.
- You can change an entire day by placing the cursor on the day of the week and pressing the  button to toggle the day On or Off.
- You can change the entire calendar by placing the cursor in the upper left-hand box (above "S" and to the left of the time line) and pressing the  button to toggle the entire calendar On and Off.

**NOTE:**

The Holiday (H) schedule applies to the dates you established as holidays when setting Date/Time.

You can save your changes by highlighting OK and pressing the button. Selecting Cancel exits the screen without saving the changes.

3.7.4 Pre-Event Recording Setup Screen

Pre-Event Record Setup

Camera	On/Off	Speed	Quality	Dwell
1	On	50 ips	High	10 sec
2	On	50 ips	High	10 sec
3	On	50 ips	High	10 sec
4	On	50 ips	High	10 sec

1 - 4	5 - 8	9 - 12	13 - 16
-------	-------	--------	---------

OK **Cancel**

Fig. 47 Pre-Event Record Setup screen.

When the DVR is in the Event Record mode it is possible to have it record images before the event occurs. The Pre-Event Record screen allows you to define how to handle pre-event recording.

You can turn individual cameras On or Off for pre-event recording. The image speed can be set from 0.1 to 50 ips (60 ips NTSC), and image quality can be selectable from High, Standard and Low.

You can set the amount of time to record prior to the event by adjusting the Dwell. You can set the Dwell from 1 to 300 seconds.



NOTE: When the DVR is in the Time-Lapse mode, it ignores the pre-event settings and follows the time-lapse settings.

3.8 Event Action Setup

You can program the DVR to record, activate the alarm output and/or notify the remote site whenever sensor, motion or video loss events are detected. Highlight the Alarm In Event Action, Motion Detector Event Action, or Video Loss Event Action in the Main menu. The following Event Action setup screens will appear.



3.8.1 Alarm In Event Action (Record) Setup Screen

The DVR can be set to react to alarm events differently. Each sensor can be assigned a schedule, camera, recording speed, video quality and dwell time.

Alarm In Event Action

		Mode 1	Mode 2			
		Record	Alarm Out	Notify		
Sensor	Sched	Camera	Speed	Quality	Dwell	
1	<input checked="" type="checkbox"/>	1	50 ips	Standard	10 sec	
2	<input checked="" type="checkbox"/>	2	50 ips	Standard	10 sec	
3	<input checked="" type="checkbox"/>	3	50 ips	Standard	10 sec	
4	<input checked="" type="checkbox"/>	4	50 ips	Standard	10 sec	

Fig. 48 Alarm In Event Action (Record) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Camera box and press the  button. A camera selection screen appears. Select the camera number you would like to associate with the sensor.



NOTE:

You can associate multiple cameras with a sensor.

- Highlight the Speed box and select number of images per second you would like to record from the drop-down menu.
- Highlight the Quality box and select the image quality you want to record from the drop-down menu.
- Highlight the Dwell box and set the length of time you would like to record for the associated event.

3.8.2 Alarm In Event Action (Alarm Out) Setup Screen

The DVR can be set to react to alarm events differently by activating an internal buzzer or external alarms.

Alarm In Event Action

		Mode 1	Mode 2
		Record	Alarm Out
			Notify

Sensor	Sched	Alarm Out	Dwell
1	<input checked="" type="checkbox"/>	-	10 sec
2	<input checked="" type="checkbox"/>	-	10 sec
3	<input checked="" type="checkbox"/>	-	10 sec
4	<input checked="" type="checkbox"/>	-	10 sec

1 - 4

5 - 8


9 - 12

13 - 16

OK

Cancel

Fig. 49 Alarm In Event Action (Alarm Out) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Alarm-Out box and select either Beep or the alarm output terminal that you want to associate with the sensor.
- Highlight the Dwell box and set the length of time you want the output activated.



NOTE: When setting the *Dwell* to “0 sec”, the alarm output will be activated throughout the sensor activation period, and inactive while the sensor is inactive.

3.8.3 Alarm In Event Action (Notify) Setup Screen

The DVR can be set to contact a computer running RAS (Remote Administration System) or send an e-mail (LAN connections) when certain events occur. See the *Figure 61 – Callback Center (LAN) Setup screen* or *Figure 62 – Callback Center (Modem) Setup screen*.

Alarm In Event Action		Mode 1	Mode 2	
		Record	Alarm Out	Notify
Sensor	Sched	Notify		
1	<input checked="" type="checkbox"/>	Off		
2	<input checked="" type="checkbox"/>	Off		
3	<input checked="" type="checkbox"/>	Off		
4	<input checked="" type="checkbox"/>	Off		

1 - 4 5 - 8 9 - 12 13 - 16

OK Cancel

Fig. 50 Alarm In Event Action (Notify) setup screen.

- Highlight the Sched box and press the button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Notify box and press the button. This toggles between On and Off. When it is On, the DVR notifies the remote site when certain alarm inputs are activated based on a defined schedule.

3.8.4 Motion Detector Event Action (Record) Setup Screen



The DVR can be set to react to motion detector differently. Each camera can be assigned a schedule, associated camera, recording speed, video quality and dwell time.

Motion Detector Event Action					
		Mode 1	Mode 2		
		Record	Alarm Out	Notify	
Camera	Sched	Camera	Speed	Quality	Dwell
1	<input checked="" type="checkbox"/>	1	50 ips	Standard	10 sec
2	<input checked="" type="checkbox"/>	2	50 ips	Standard	10 sec
3	<input checked="" type="checkbox"/>	3	50 ips	Standard	10 sec
4	<input checked="" type="checkbox"/>	4	50 ips	Standard	10 sec

1 - 4 5 - 8 9 - 12 13 - 16

OK Cancel

Fig. 51 Motion Detector Event Action (Record) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Camera box and press the  button. A camera selection screen appears. Select the camera number you would like to associate with the camera.



NOTE:
You can associate multiple cameras with a camera that detects motion.

- Highlight the Speed box and select number of images per second you would like to record from the drop-down menu.
- Highlight the Quality box and select the image quality you want to record from the drop-down menu.
- Highlight the Dwell box and set the length of time you would like to record for the associated motion event.

3.8.5 Motion Detector Event Action (Alarm Out) Setup Screen

The DVR can be set to react to motion events differently by activating an internal buzzer or external alarms.

Motion Detector Event Action

Mode 1

Mode 2

Record

Alarm Out

Notify

Camera	Sched	Alarm Out	Dwell
1	<input checked="" type="checkbox"/>	-	10 sec
2	<input checked="" type="checkbox"/>	-	10 sec
3	<input checked="" type="checkbox"/>	-	10 sec
4	<input checked="" type="checkbox"/>	-	10 sec

1 - 4

5 - 8


9 - 12

13 - 16

OK

Cancel

Fig. 52 Motion Detector Event Action (Alarm Out) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Alarm-Out box and select either Beep or the alarm output terminal that you want to associate with the motion event.
- Highlight the Dwell box and set the length of time you want the output activated.



NOTE:
When setting the *Dwell* to "0 sec", the alarm output will be activated throughout the sensor activation period, and inactive while the sensor is inactive.

3.8.6 Motion Detector Event Action (Notify) Setup Screen

The DVR can be set to contact a computer running RAS (Remote Administration System) or send an e-mail (LAN connections) when certain motion events occur. See the *Figure 61 – Callback Center (LAN) Setup screen* or *Figure 62 – Callback Center (Modem) Setup screen*.

Motion Detector Event Action	
Mode 1	
Mode 2	
Record	
Alarm Out	
Notify	
Camera	Sched
1	<input checked="" type="checkbox"/>
2	<input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/>
4	<input checked="" type="checkbox"/>
Notify	
Off	
Off	
Off	
Off	

1 - 4 5 - 8 9 - 12 13 - 16

OK Cancel

Fig. 53 Motion Detector Event Action (Notify) setup screen.

- Highlight the Sched box and press the button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Notify box and press the button. This toggles between On and Off. When it is On, the DVR notifies the remote site when certain motion events occur based on a defined schedule.

3.8.7 Video Loss Event Action (Record) Setup Screen



The DVR can be set to react to video loss from a camera differently. Each camera can be assigned a schedule, associated camera, recording speed, video quality and dwell time.

Video Loss Event Action					
Mode 1					
Mode 2					
Record					
Alarm Out					
Notify					
Camera	Sched	Camera	Speed	Quality	Dwell
1	<input checked="" type="checkbox"/>	-	50 ips	Standard	10 sec
2	<input checked="" type="checkbox"/>	-	50 ips	Standard	10 sec
3	<input checked="" type="checkbox"/>	-	50 ips	Standard	10 sec
4	<input checked="" type="checkbox"/>	-	50 ips	Standard	10 sec

1 - 4 5 - 8 9 - 12 13 - 16

OK Cancel

Fig. 54 Video Loss Event Action (Record) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Camera box and press the  button. A camera selection screen appears. Select the camera number you would like to associate with the camera that has lost video.



NOTE:
You can associate multiple cameras with a camera.

- Highlight the Speed box and select number of images per second you would like to record from the drop-down menu.
- Highlight the Quality box and select the image quality you want to record from the drop-down menu.
- Highlight the Dwell box and set the length of time you would like to record for the associated video loss.

3.8.8 Video Loss Event Action (Alarm Out) Setup Screen

The DVR can be set to react to video loss differently by activating an internal buzzer or external alarms.

Video Loss Event Action

		Mode 1	Mode 2	
		Record	Alarm Out	Notify
Camera	Sched	Alarm Out		
1	<input checked="" type="checkbox"/>	Beep		
2	<input checked="" type="checkbox"/>	Beep		
3	<input checked="" type="checkbox"/>	Beep		
4	<input checked="" type="checkbox"/>	Beep		

1 - 4

5 - 8


9 - 12

13 - 16

OK

Cancel

Fig. 55 Video Loss Event Action (Alarm Out) setup screen.

- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Alarm-Out box and select either Beep or the alarm output terminal that you want to associate with the camera that has lost video.

3.8.9 Video Loss Event Action (Notify) Setup Screen

The DVR can be set to contact a computer running RAS (Remote Administration System) or send an e-mail (LAN connections) in the case of video loss. See the *Figure 61 – Callback Center (LAN) Setup screen* or *Figure 62 – Callback Center (Modem) Setup screen*.



Video Loss Event Action

		Mode 1	Mode 2
		Record	Alarm Out
Camera	Sched	Notify	
1	<input checked="" type="checkbox"/>	Off	
2	<input checked="" type="checkbox"/>	Off	
3	<input checked="" type="checkbox"/>	Off	
4	<input checked="" type="checkbox"/>	Off	


1 - 4 5 - 8 9 - 12 13 - 16

OK Cancel

Fig. 56 Video Loss Event Action (Notify) setup screen.

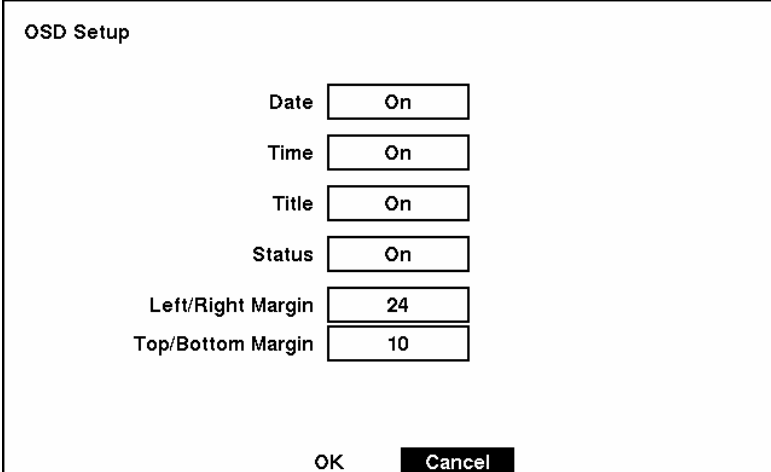
- Highlight the Sched box and press the  button. A schedule screen appears. Set the schedule as described earlier.
- Highlight the Notify box and press the  button. This toggles between On and Off. When it is On, the DVR notifies the remote site when it loses video input from a camera based on a defined schedule.

3.9 Display Setup

Highlight the OSD, Main Monitoring or Sport Monitoring in the Main menu, and press the  button to set up the on-screen display and camera display on the main monitor or spot monitor.

3.9.1 OSD (On-Screen Display) Setup Screen

The DVR can be set up to display Date, Time, Title and Status on screen. Each feature can be turned on or off, and you can adjust the margins.









The OSD Setup screen displays the following settings:

Setting	Value
Date	On
Time	On
Title	On
Status	On
Left/Right Margin	24
Top/Bottom Margin	10

At the bottom of the screen are two buttons: OK and Cancel.

Fig. 57 OSD Setup screen.

- Highlight the box beside Date and press the  button to toggle the date display On and Off.
- Highlight the box beside Time and press the  button to toggle the time display On and Off.
- Highlight the box beside Title and press the  button to toggle the camera title display On and Off.
- Highlight the box beside Status and press the  button to toggle status display On and Off.
- Highlight the box beside Left/Right Margin and press the  button to adjust the left and right margins. The margins can be set from 1 to 24.
- Highlight the box beside Top/Bottom Margin and press the  button to adjust the top and bottom margins. The margins can be set from 1 to 24.

3.9.2 Main Monitoring Setup Screen

You can adjust the display dwell time for each camera displayed on the main monitor. You can also turn camera sequence and event monitoring on and off.

The image shows a 'Main Monitoring Setup' dialog box. It contains four settings, each with a text label and a value box:

- Sequence Dwell Time**: 3 sec
- Sequence in Cameo**: Off
- Event Monitoring**: Off
- Event Monitoring Dwell Time**: 3 sec

At the bottom of the dialog box are two buttons: 'OK' and 'Cancel'.

Fig. 58 Main Monitoring Setup screen.

- Highlight the box beside Sequence Dwell Time and press the button. You can adjust the display dwell time from 3 to 60 seconds.
- Highlight the box beside Sequence in Cameo and press the button to toggle between On and Off.
- Pressing the **Sequence** button causes the DVR to sequence cameras, and the DVR can sequence cameras in two modes: "Page" and "Cameo". In the Page mode, the DVR sequences through user-defined screen layouts (pages). In the Cameo mode, the bottom right window in a multi-screen format sequences through all cameras.



NOTE:

The DVR does not sequence the camera having video loss in the Cameo mode.

You can define the screen layout in a variety of formats and set the DVR to sequence through the different screen layouts (pages) so that all the cameras will be displayed. You can also set up the DVR to display one camera or a group of cameras all the time while cycling through the remaining cameras in a "cameo" window. This can be done with one camera displayed full screen while displaying the cameo window as a PIP (picture in picture), or displaying the cameras in a grid pattern with the bottom right window as the cameo.



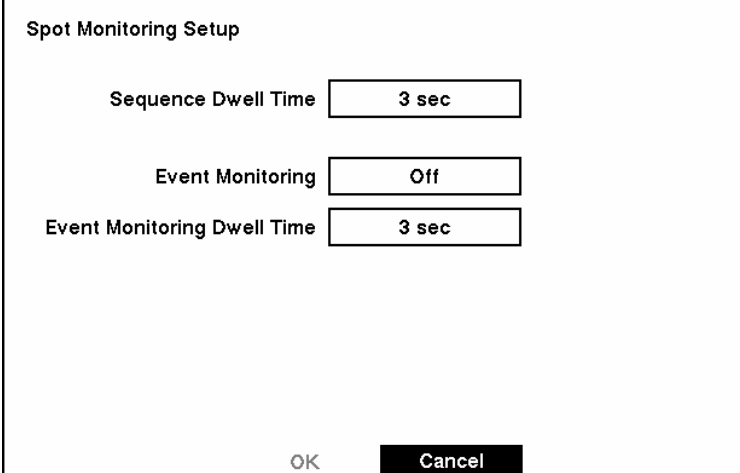
NOTE:

Sequence cannot be used in the 4 x 4 display mode of the 16-channel and 3 x 3 mode of the 9-channel DVR.

- Highlight the box beside Event Monitoring and press the button to toggle between On and Off. When On, video from the lowest camera number among those associated with the sensor that detected the event will be displayed full-screen on the monitor for the preset dwell time.
- Highlight the box beside Event Monitoring Dwell Time and press the button. Select the event monitoring dwell time from 3 to 60 seconds.

3.9.3 Spot Monitoring Setup Screen




You can adjust the display dwell time for each camera displayed on the spot monitor. You can also turn event monitoring on and off.



The image shows a 'Spot Monitoring Setup' dialog box. It contains three rows of settings, each with a label and a text input field. The first row is 'Sequence Dwell Time' with '3 sec' in the field. The second row is 'Event Monitoring' with 'Off' in the field. The third row is 'Event Monitoring Dwell Time' with '3 sec' in the field. At the bottom of the dialog, there are two buttons: 'OK' and 'Cancel'.

Spot Monitoring Setup	
Sequence Dwell Time	3 sec
Event Monitoring	Off
Event Monitoring Dwell Time	3 sec
OK Cancel	

Fig. 59 Spot Monitoring Setup screen.

- Highlight the box beside Sequence Dwell Time and press the  button. You can adjust the sequence dwell time from 3 to 60 seconds.
- Highlight the box beside Event Monitoring and press the  button to toggle between On and Off. When it is On, the video of the lowest camera number among cameras associated with the event-detected sensor will be displayed in full-screen on the spot monitor during the preset dwell time.
- Highlight the box beside Event Monitoring Dwell Time and press the  button. You can adjust the event monitoring dwell time from 3 to 60 seconds.

3.10 Network Setup Screen

In the Network Setup screen you can set up the DVR for LAN connections.

Fig. 60 Network Setup screen.

- Highlight the box beside Connection. Press the button to toggle between LAN and Modem.
- Highlight the box beside Admin Password and press the button. A virtual keyboard appears. You will first be asked to enter the current password. Then you can enter a new password; you will be asked to confirm the new password before it is accepted.
- Highlight the box beside User Password and press the button. A virtual keyboard appears. You will first be asked to enter the current password. Then you can enter a new password; you will be asked to confirm the new password before it is accepted.



NOTE:

These passwords are for network use. They are different from the Admin and User passwords for the DVR itself.



NOTE:

The passwords are case sensitive. The factory default password for both Administrator and User is 12345678.



CAUTION

Write the password down and keep it in a safe place. Once the password has been reset, the default will no longer work. If the password is forgotten, the unit must be reset using the *Factory Reset Button* and all data settings will be lost.

- Highlight the box beside Transfer Control. Press the button to toggle between On and Off. When On, you can set the transfer speed and remote quality of the image transferred to a computer running RAS (Remote Administration System).
- Highlight the box beside Transfer Speed and press the button. Select the transfer speed from 1 to 25 ips for PAL (1 to 30 ips for NTSC).



NOTE:

When the Record Quality is set to High during the Record Mode setup, the transfer speed can be set from 1 to 10 ips for PAL (1 to 15 ips for NTSC).



NOTE:

The transfer speed you set is the maximum speed. Depending on the network environment, this speed may not be achieved.



NOTE:

The transfer speed indicates the image rate transferred to each RAS. If two remote sites (RAS) are connecting to the DVR, the number of images transferred via network will be 'Transfer Speed x 2'.



NOTE:

The Transfer Control option will affect the DVR's recording performance. The number of remote sites (RAS) connected to the DVR does not affect the recording speed. The local recording speed will be affected only by Transfer Speed. The local recording speed will not be affected if the DVR is not connected remotely.



NOTE:

If Transfer Control is not used, the speed of data transfer to a remote site will be the same as the local recording speed.

- Highlight the box beside Remote Quality and press the button. Select the image quality from Very High, High, Standard and Low.

3.10.1 LAN Setup Screen

The LAN Setup screen displays the following configuration options:

Use dynamic IP Configuration(DHCP)	Off
IP Address	192.168.1.129
Gateway	192.168.1.254
Subnet Mask	255.255.255.0
IP Port Number (8000 ~ 12000)	
Admin	8200
Watch	8016
Search	10019
Callback	8201
OK Cancel	

Fig. 61 LAN Setup screen.

Highlight the box beside Use dynamic IP Configuration (DHCP) and press the button to toggle between On and Off.



NOTE:

When set to On, the IP Address, Gateway and Subnet Mask will be set automatically, so you cannot change the LAN settings.



NOTE:

When you use the DHCP, the IP address of the DVR might be changed whenever turning the DVR on. You can check the current IP address of the DVR in the System Information screen.

Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number.



NOTE:

You will need to get the appropriate IP Address, Gateway, Subnet Mask and IP Port Number for each RAS-related program (Admin, Watch, Search and Callback) from your network administrator.

The factory default LAN settings are:

DHCP: Off
 IP Address: 192.168.1.129
 Gateway: 192.168.1.254
 Subnet Mask: 255.255.255.0

The factory default IP Port settings are:

Admin: 8200
 Watch: 8016
 Search: 10019
 Callback: 8201



NOTE:

Do NOT use the same IP port number for two different programs; otherwise, the DVR cannot be connected with a PC running RAS.



CAUTION

When changing the IP port settings, you must change the IP port settings on a PC running RAS as well. Refer to the RAS manual for details.

You can save your changes and return to the Network Setup screen by highlighting OK and pressing the button. Selecting Cancel exits the screen without saving the changes.

3.10.2 Modem Setup

RS232/RS485

RS232/RS485	RS232	RS485
Baud Rate	57600	57600
Parity	None	None
Data Bit	8	8
Stop Bit	1	1
Usage	External Modem	Remote Control

OK
Cancel

Fig. 62 RS232/RS485 setup screen.



NOTE:

Modem setup is done through the *RS232/RS485* screen in the Devices menu, which can be accessed from the Main Menu.



NOTE:

If the RS232 port is in use for the remote control, the networking cannot be configured by the modem. In the *RS232/485 Setup* menu, set up the RS232 port to communicate with the external modem first.

●

- Highlight the box beside Baud Rate of the RS232 field and press the button. A list of baud rates ranging from 300 to 115,200 appears.
- Highlight the box beside Parity of the RS232 field and press the button. A drop-down list appears. You can select from None, Odd or Even parity.
- Highlight the box beside Data Bit of the RS232 field. Pressing the button toggles between 7 bit and 8 bit formats.
- Highlight the box beside Stop Bit of the RS232 field. Pressing the button toggles between 1 and 2 Stop Bits.
- You can save your changes by highlighting OK and pressing the button. Selecting Cancel exits the screen without saving the changes.

3.10.3 Callback Center (LAN) Setup Screen

Callback Center Setup	
IP Address	192.168.1.129
Retry	3
E-mail notification	Off
SMTP Server IP	192.168.1.254
E-mail recipient	root @ 192.168.1.254
E-mail sender	dvr @ 192.168.1.254
<div style="text-align: center;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </div>	

Fig. 63 Callback Center (LAN) Setup screen.

- The DVR can be set to contact a computer running RAS (Remote Administration System) or send an e-mail on a LAN when an event occurs.
- Highlight the box beside IP Address and enter the IP address of the computer you want contacted during an event.
- Highlight the box beside Retry and enter the number of times you would like the DVR to try contacting the computer. You can select from 1 to 10 retries.
- Highlight the box beside E-mail notification and press the button to toggle between On and Off.
- Highlight the box beside SMTP Server IP and enter the SMTP server IP address, obtained from your system administrator.
- Highlight the box beside E-mail recipient and enter the recipient's e-mail address. Use the virtual keyboard to enter the e-mail address.
- Highlight the box beside E-mail sender and enter the sender's e-mail address.



NOTE:

The e-mail address must include the character "@" to be a valid address.

3.10.4 Callback Center (Modem) Setup Screen

Callback Center Setup

Remote Server Phone Number

Callback Phone Number

Retry

OK Cancel

Fig. 64 Callback Center (Modem) Setup screen.

- If you have a modem connected to the DVR, it can be set up to contact a computer running RAS (Remote Administration System) when an event occurs.
- Highlight the box beside Remote Server Phone Number and enter the telephone number of the computer running RAS. Enter the number as it must be dialed from your telephone system; for example, if you must dial "0" for an outside line, enter "0" before the pager number.
- Highlight the box beside Callback Phone Number and enter the telephone number of the DVR. This phone number will be used to contact the DVR from a remote site.
- Highlight the box beside Retry and enter the number of times you would like the DVR to try contacting the computer. You can select from 1 to 10 retries.




NOTE:

When any event occurs, the DVR will call a remote site to give notice of an event. The DVR will hold the phone line for 30 seconds after connecting a remote site to wait for other events that might occur. If another event occurs while the DVR is holding the line, the DVR will hold the line for another 30 seconds. If no other event occurs, the DVR automatically disconnects the line



NOTE:

When any event occurs, the connection made from a remote site to the DVR will be disconnected automatically in order for the DVR to call a remote site to give notice of an event.

- You can save your changes by highlighting OK and pressing the  button. Selecting Cancel exits the screen without saving the changes.

3.11 Password Setup Screen

An Administrator password is required to turn the system off, enter the setup screen, load default setups, clear all data, change system date and time and change the Administrator password. A User password is required to enter the playback, fast forward playback and fast backward playback modes from the live monitoring mode. A User password is also required to enter the search menu screen in the live monitoring mode, enter setup screen (access to only the Clip Copy and Password setup screens). When pressing the **ALARM** button to display the event log in the live monitoring mode unless there is an active alarm, a User password is also required. Highlight Password in the Main menu and press to enter the Password screen.


Password

Permission	On/Off	Password
User	On	*****
Admin Setup		*****



Key Lock On

OKCancel

Fig. 65 Password setup screen.

Highlight the box beside User and press the  button to toggle between On and Off. If the password is set to On, you will be asked to enter the current password so that you can turn it Off. If the password is set to Off, you will be asked to enter the new password and to confirm it before it will be turned on.

The Administrator password cannot be turned On and Off. You can change the Administrator password by first entering the current password, entering a new password and finally confirming the new password.


To change the password, highlight the Password box and press the  button. A window appears asking you to enter the current password. If you enter the correct password, another window appears asking you to enter a new password using the camera buttons. After you press the  button, another screen appears asking you to confirm the new password.




NOTE:
The Admin and User passwords are composed of up to eight digits using the camera buttons. The default Admin password is: **4321**.



CAUTION
Write down the new password and save it in a secure place. If the password is forgotten, the unit must be reset using the *Factory Reset Button* and all data settings will be lost.

To lock front panel buttons, highlight Key Lock On and press the  button. Once the buttons are locked, pressing any front panel button will cause a password screen to display. You will need to enter the correct password to unlock the keys. The Key Lock password is **4231**.

You can save your changes by highlighting OK and pressing  button. Selecting Cancel exits the screen without saving the changes.

3.12 Config Screen

The Config menu is used to perform functions such as switching between Quick Setup and System Setup, archiving video, copying video clips, loading default setup and clearing all data.

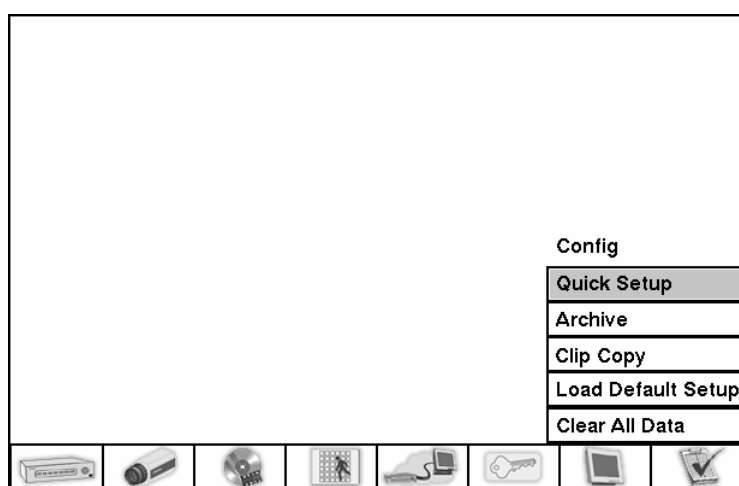


Fig. 66 Config screen.

3.12.1 Archive

The Archive screen can be used to archive video automatically or manually.

Archive

Record Info. Start	04-19-2004 16:40:10
Record Info. End	05-19-2004 19:27:36
Archive Info. Start	05-14-2004 13:05:23
Archive Info. End	05-19-2004 12:02:18
Archive Disk Usage	65% remained
Archive Status	Ready Auto Archive[0 - 24]

Setup	Manual	Stop
Update	Clear	

Close

Fig. 67 Archive screen.

Selecting Update loads the latest information displayed on the Archive screen.

Selecting Clear erases all archived data.


Selecting Setup displays a screen where you set up archive parameters.


Archive Setup


End Of Disk	Stop
Auto Archive	On
Archive From	05-19-2004 12:02:19
Working From	0
Working To	24


OK **Cancel**


Fig. 68 Archive Setup screen.

Highlight the box beside End Of Disk and press the  button. This toggles between Overwrite and Stop. When set to Overwrite, the DVR continues archiving when the device drive is full by overwriting the oldest video. When set to Stop, the DVR stops archiving when the device drive is full.

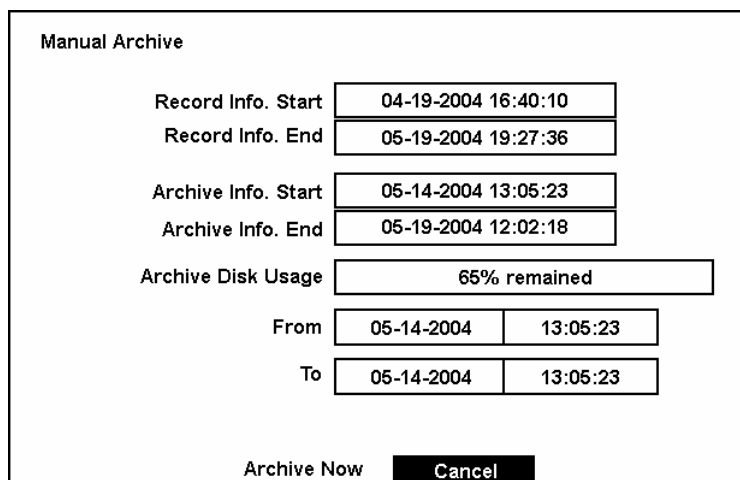
Highlight the box beside Auto Archive and press the  button. This toggles between On and Off. When it is On, the DVR will archive video automatically from the time set on the Archive From field.

Highlight the box beside Archive From and press the  button to set up the archive start date and time.

Highlight the box beside Working From / Working To and press the  button to set up the time span of the automatic archive.

You can save your changes by highlighting OK and pressing  button. Selecting Cancel exits the screen without saving the changes.

Selecting Manual displays a screen where you set up manual archive parameters.



Manual Archive

Record Info. Start	04-19-2004 16:40:10	
Record Info. End	05-19-2004 19:27:36	
Archive Info. Start	05-14-2004 13:05:23	
Archive Info. End	05-19-2004 12:02:18	
Archive Disk Usage	65% remained	
From	05-14-2004	13:05:23
To	05-14-2004	13:05:23





Archive Now  Cancel

Fig. 69 Manual Archive screen.

Highlight the boxes beside From and To and press the  button to set up the archive start and stop times and dates.

Once you set the archive start and stop times and dates, highlight the Archive Now button and press the  button.

You can end the archiving process at any time by highlighting the Stop button and pressing the  button.



NOTE:

The Stop button will display only during archiving.



NOTE:

If you have a large quantity of recorded video to archive, either stop recording or reset the recording speed. The oldest data to be archived might be overwritten if the hard disk is full.

3.12.2 Clip Copy

The Clip Copy screen can be used to copy video clips to an external USB hard disk drive, CD-RW drive or flash drive. The copied clips can be viewed on computers running Microsoft Windows 98, ME, 2000 or XP. Refer to the *Appendix A — USB Hard Disk Drive Preparation* for information on preparing the external drive for clip copy.

Fig. 70 Clip Copy screen.

To select the data source to back up, highlight the first box on the top and press the button. A drop-down list of available data source appears. You can select from Local or Archive.

To select the type of the USB drive to use for clip copy, highlight the box on the top and press the button. A drop-down list of USB drives appears. You can select from USB HDD or USB CD-RW. Placing a checkmark in the Audio box copies recorded audio with video.



NOTE:

To copy clips using the USB CD-RW there must be two or fewer external SCSI hard disk drives connected to the DVR.

You can define how much video to copy changing the start and end times and dates. You can also select which camera you wish to copy.

Highlight the File Name box and press the button. A virtual keyboard appears. Enter a file name for the video you are copying and select Close. The DVR will automatically add the camera number (for example "01") and ".exe" to the file name. If you want to save the file in a specific folder, enter the folder name followed by a "/". For example: "folder/filename"

Once you have given the video a file name, highlight the Start button and press the button to start clip copy.

When you select the USB CD-RW, the DVR will display the drive capacity, the clip size and ask if you want to continue.

When more than two USB hard disk drives are installed on the DVR, the following USB Device Selection screen appears. Select the drive to use for clip copy and press the button. Selecting Return to Clip Copy Menu and pressing the

button exits the screen and returns to the Clip Copy screen without saving the changes.

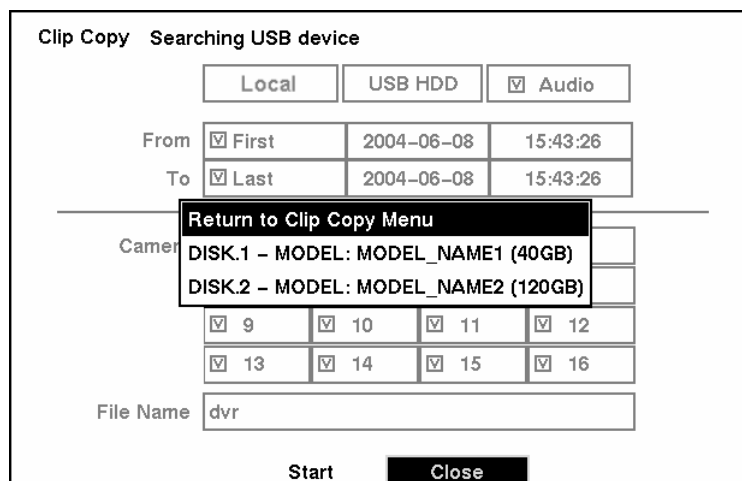


Fig. 71 USB Device Selection screen.

When the selected drive has more than 2 partitions, the following Disk Partition Selection screen appears. If the file system is not FAT16 or FAT32, the TYPE displays NOT Supported.

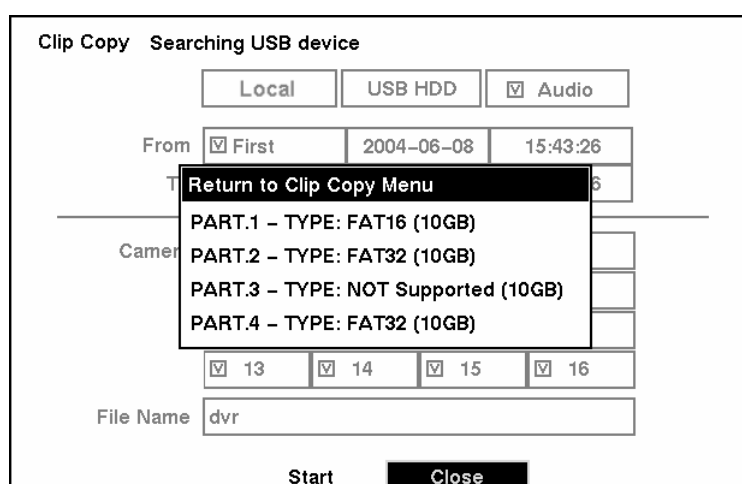



Fig. 72 Disk Partition Selection screen.

Once you select the drive and partition to use for clip copy, the DVR will display the drive capacity, the clip size and ask if you want to continue.



NOTE:
Do not copy clips larger than 2GB.

You can use other functions on the DVR while video is being copied. To do this, highlight the Close button and press the  button. You can return to the Clip Copy screen at any time to check the progress.



NOTE:
You can not end the clip copy process during CD burning.

Refer to Appendix – Reviewing Video Clips for instructions on how to review the images you have copied.



NOTE:

During clip copy, you can neither change the system date and time, shut the system down, switch to the Quick Setup mode, clear all data, nor change the system setup from a remote site.



CAUTION

Do NOT disconnect the USB cable or the power from the external drive while copying clips. If the external drive is shut down or the USB cable is disconnected while copying clips, THE DVR SYSTEM MAY NOT WORK NORMALLY OR THE EXTERNAL DRIVE COULD BE DAMAGED, and you will get an error message the next time you try to copy clips. You will need to power down the DVR and restart it to get rid of the error message. Once the file system of the USB-IDE hard disk drive has been corrupted, this error message cannot be dismissed. Even after restarting the DVR it may automatically restart while preparing clip copy. You must recover the file system using the recovery program, or you must reformat the hard disk drive.

3.12.3 Load Default Setup

Highlighting and selecting Load Default Setup will bring up screen asking you if you really want to load default settings and confirm it with a password.



NOTE:

Loading the Default Setup will not change the current time, time zone, daylight saving time and network settings.

3.12.4 Clear All Data

Highlighting and selecting Clear All Data will bring up screen asking you if you really want to clear all data and confirm it with a password.



CAUTION

Selecting *Clear All Data* will erase all recorded video.

4 Operation


NOTE:

This chapter assumes your DVR has been installed and configured. If it has not, please refer to Chapters 2 and 3.

The DVR's controls are similar to a VCR. As with a VCR, the main functions are recording and playing back video. However, you have much greater control over recording and playing back video. You can establish recording schedules based on time of day and day of the week. The DVR allows you to search through the recorded video using much more sophisticated tools than those available with VCRs. Additional DVR features that are not available with VCRs are remote control and viewing, and recording video at the same time you are watching previously recorded video.

The front panel controls are described in *Chapter 3 — Configuration*.

4.1 Turning on the Power

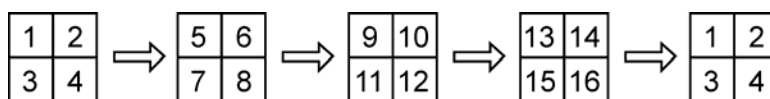
Once you have installed the DVR following the instructions in *Chapter 2 — Installation*, it is ready to record. Plugging in the power cord will cause unit to go through its self-diagnostics.

4.2 Live Monitoring

As soon as the DVR completes its initialization process, it will begin showing live video on the attached monitor and playing live audio through the attached speaker. The default mode is to display all cameras at once. Pressing any camera button will cause that camera to display full screen. It displays live video and plays live audio until the user enters another mode.



Pressing the **Display** button cycles the DVR through the different display formats.

Pressing the **Sequence** button will cause the cameras to display sequentially on the monitor. When in one of the multi-view formats, pressing this button will cause the DVR to through user-defined screen layouts (page sequence), or the bottom, right screen to display live cameras sequentially (cameo sequence). Selecting another display mode, or pressing the **Sequence** button again will exit the Sequence mode. When in one of the multi-view formats, pressing the Left or Right arrow buttons will cause the DVR to go to the previous or the next page. For example, if you press the Right arrow button while in 4x4 format, the DVR changes the page as follows:





Pressing the **Freeze** button will freeze the current image on the screen until you press the button again.

4.2.1 Active Cameo Mode

You can enter the Active Cameo mode by pressing the  button in any multi-view format. The grey-highlight box at the bottom of video indicates the active cameo, and pressing the arrow buttons moves the active cameo. Pressing the  button while in the Active Cameo mode exits the Active Cameo mode. The active cameo mode will remain in effect for 15 seconds if there is no further action.


In Active Cameo mode, press the camera button you want to display as active cameo. After selecting a camera number as active cameo, the DVR moves the active cameo to the next position. You can change the screen layout using this process. The screen layout can also be changed in the playback mode.

The active cameo also can be used to select a camera to control Pan, Tilt and Zoom capabilities. In the PTZ mode, enter the Active Cameo mode by pressing the  button, and move the active cameo to the camera you want to control. Then exit from the Active Cameo mode by pressing the  button again to control the selected camera.



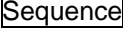




NOTE:
The active cameo mode can be set or released in the playback mode while playback video is paused.

4.2.2 PIP Mode

You can display a Picture-in-Picture by pressing the  button. You can change the location of the PIP by pressing the Up and Down arrow buttons and its size by pressing the Left and Right arrow buttons.

4.2.3 PTZ Mode

The DVR will control cameras with Pan, Tilt and Zoom capabilities. Press the  button to enter the PTZ mode. You can control the camera using front panel control buttons or by setting up presets. To use the front panel buttons, press the Left and Right arrow buttons to pan left and right. Press the Up and Down arrow buttons to tilt the camera up and down. Press the  button to zoom in, and press the  button to zoom out. You can use the  and  buttons to focus the image.

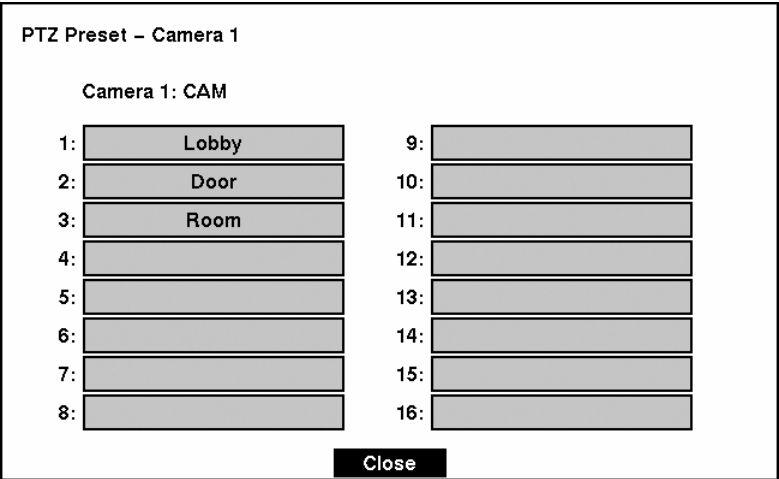


Fig. 73 PTZ Preset screen.

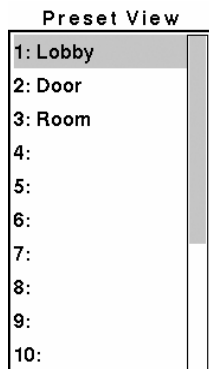


Fig. 74 Preset View screen.

You can save camera position settings as “presets” so that you can go directly to desired views. Once you have the camera at the desired settings, press the **Search** button, and the PTZ Preset dialog box will appear. Select the number you want to assign to the preset and press the **↵** button. Use the virtual keyboard to enter the preset name. Press the **Menu** button to load the PTZ preset and the Preset View dialog box will appear. Select the desired preset and press the **↵** button to load the preset.

4.3 Recording Video

Once you have installed the DVR following the instructions in *Chapter 2 — Installation*, it is ready to record.

Although you will be able to record without changing the unit from its original factory settings, you will want to take advantages of the DVR’s many tools. See *Chapter 3 — Configuration* for detailed descriptions of the recording mode options.



NOTE:

The DVR is NOT recording if only the red LED above the REC button is lit. When the DVR is set for *Time-lapse* or *Event* recording, the red LED above the REC button indicates the unit is ready to record. The red dot appears on the monitor when the clock reaches a scheduled recording time and the DVR starts recording video.

4.4 Recording Audio

If the DVR was set up to record audio, it will record audio when video is recording.



NOTE:

Make certain you comply with all local and federal laws and regulations when recording audio.

4.5 Playing Recorded Video

Once video has been recorded, you can view it by pressing the **Play/Pause** button. When playing video for the first time, the DVR will display the most recent image. When playing video subsequent times, the DVR will start playing video from the last recalled image.



NOTE:

If the DVR is set in the *Simplex* mode, you will need to stop recording before playing back video. When you return to the Live Monitoring mode, pressing the **REC** button is required to start recording again.

Pressing the **Play/Pause** button again will freeze the video on the screen.

4.5.1 Camera Buttons (1 to 16)

Pressing a camera button will display that camera full screen.

4.5.2 Display Button

Pressing the **Display** button during will cycle the display through the different screen layouts. The display modes are: full, 4 x 4, 3 x 3, and 2 x 2 (not all formats are available for the 9- and 4- channel DVRs).



NOTE:

You cannot change the display format while playing back video. Pause the video first, then change the format.

4.5.3 RW (Rewind) Button

Pressing the **RW** button plays video backward at high speed. Pressing the button again toggles the playback speed from ◀◀, ◀◀◀ and ◀◀◀◀. The screen displays ◀◀, ◀◀◀ and ◀◀◀◀ respectively.

Entering Fast Backward Playback mode from Live Monitoring mode can be password protected.

4.5.4 PREV (Previous) Button

The **PREV** button only functions when playback video has been paused. Pressing the **PREV** button plays video backward image-by-image.

4.5.5 Stop Button

Pressing the **Stop** button during Playback mode returns the DVR to the Live Monitoring mode.

4.5.6 Next Button

The **Next** button only functions when playback video has been paused. Pressing the **Next** button plays video forward image-by-image.

4.5.7 FF (Fast Forward) Button

Pressing the **FF** button plays video forward at high speed. Pressing the button again toggles the playback speed from **▶▶**, **▶▶▶** and **▶▶▶▶**. The screen displays **▶▶**, **▶▶▶** and **▶▶▶▶** respectively.

Entering Fast Playback mode from Live Monitoring mode can be password protected.

4.6 Searching Video

Pressing the **Search** button displays the Search Menu.



Fig. 75 Search Menu.

- Change Data Source... — Changes the data source to be searched (see below for more details)
- Go to First — Displays the first recorded image
- Go to Last — Displays the last recorded image
- Date/Time Search... — Searches by date and time (see below for more details)
- Calendar Search... — Searches using a calendar (see below for more details)
- Event Search... — Selects video from the event log (see below for more details)



NOTE:

The searching speed might decrease when all camera channels are in the pre-alarm recording mode.

4.6.1 Change Data Source



Fig. 76 Change Data Source screen.

You can select the data source to be searched from local storage (Search On Local) or archive storage (Search On Archive). To select the data source, highlight the data source to be searched and press the **Enter** button.

4.6.2 Date/Time Search

The screen is titled "Date/Time Search". Below the title, it says "Enter Date/Time:". There are two input fields: the first contains "01-21-2002" and the second contains "07:04:55 AM". Below these fields are two buttons: "OK" and "Cancel".

Fig. 77 Date/Time Search screen.

- Move the cursor over the date and press the button. You can use the Left and Right arrow buttons to highlight the year, month and day. Use the Up and Down arrow buttons to change to the date you want to search for. Once you have set the date you want, press the button.
- Move the cursor over the time and press the button. You can use the Left and Right arrow buttons to highlight the hour, minutes and seconds. Use the Up and Down arrow buttons to change to the time you want to search for. Once you have entered the time you want, press the button.
- Once you have set the date and time you want to search for, highlight the button and press the button. The selected date and time will display. (If no video was recorded at the selected time, a blank screen will display.) The , , , , and buttons can now be used to review the surrounding video.

4.6.3 Calendar Search

The screen is titled "Calendar Search". It displays a calendar grid for the month of January 2002. The header shows "< 01-12-2002 >". The grid has columns for days of the week (SUN, MON, TUE, WED, THU, FRI, SAT) and rows for dates. The date 12 is highlighted. Below the calendar grid is a time bar with a scale from 0 to 10. The bar is currently empty. At the bottom of the screen are "Go" and "Cancel" buttons.

Fig. 78 Calendar Search screen.

Days with recorded video display on the calendar with white numbers. You can highlight the days with recorded video by using the arrow buttons. Once you have highlighted a day, press the button to select it.

A time bar will display at the bottom of the calendar. Hours in which video was recorded will be highlighted. You can use Up and Down arrow buttons to highlight the time bar. Once the time bar is highlighted, you can select the time by using the Left and Right arrow buttons.

**NOTE:**

The time bar is in one-hour segments. If a segment is highlighted, it means that some video was recorded during that hour. However, it does NOT mean video was recorded for the entire hour.

Once you have set the date and time you want to search, highlight the **GO** button and press the button. The selected date and time will display. The **Play/Pause**, **RW**, **FF**, **PREV**, and **Next** buttons can now be used to review the surrounding video.

4.6.4 Event Search

Event Log			
No.	Type	Title	Date/Time
976	Motion 3	CAM	04-22-2002 06:40:58 PM
975	Motion 2	CAM	04-22-2002 06:40:56 PM
974	Motion 1	CAM	04-22-2002 06:40:54 PM
973	Alarm-In 4		04-22-2002 06:40:51 PM
972	Alarm-In 3		04-22-2002 06:40:51 PM
971	Alarm-In 2		04-22-2002 06:40:51 PM
970	Alarm-In 1		04-22-2002 06:40:51 PM
976			Query...
Close			

Fig. 79 Event Log screen.

The DVR maintains a log of each time the Alarm Input port is activated. The Event Log screen displays this list. Use the arrow buttons to highlight the event for which you would like to see video.

**NOTE:**

Event Search does not work when the data source is set to *Search On Archive*.

Pressing the button will extract the event video and display the first image of the event. Pressing the **Play/Pause** button will start playing the “event” video segment. Pressing **Stop** returns to live monitoring. Pressing **Search** returns to the Event Log.

You can also narrow your event search by selecting the **Query...** button and setting up the new search condition.

Event Search

Search By

Camera

From

☒ First

01-24-2002

01:56:57 AM

To

☒ Last

01-24-2002

01:56:57 AM

Camera

<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input checked="" type="checkbox"/> 4
<input checked="" type="checkbox"/> 5	<input checked="" type="checkbox"/> 6	<input checked="" type="checkbox"/> 7	<input checked="" type="checkbox"/> 8
<input checked="" type="checkbox"/> 9	<input checked="" type="checkbox"/> 10	<input checked="" type="checkbox"/> 11	<input checked="" type="checkbox"/> 12
<input checked="" type="checkbox"/> 13	<input checked="" type="checkbox"/> 14	<input checked="" type="checkbox"/> 15	<input checked="" type="checkbox"/> 16

Event

<input checked="" type="checkbox"/> Alarm-In
<input checked="" type="checkbox"/> Motion
<input checked="" type="checkbox"/> Video Loss

Search

Cancel

Fig. 80 Event Search (by Camera) screen.

Event Search

Serach by

Event

From

☒ First

04-08-2002

11:28:37 PM

To

☒ Last

04-08-2002


11:28:37 PM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Alarm In	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Motion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Video Loss	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Search


Cancel

Fig. 81 Event Search (by Event) screen.

Highlight the box beside Search by and press the  button to toggle between Camera and Event.

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

When you select the Search by Camera, select the target cameras and event options. When you select the Search by Event, select event options for each device.

Once you set your desired search conditions, highlight Search and press the  button to display the search results in the Event Log screen. Selecting Cancel exits the screen without saving the changes.

5 Appendix A — USB-IDE Hard Disk Drive Preparation

5.1 Preparing the USB-IDE hard disk drive in Windows 2000



NOTE:

Preparing a USB-IDE hard disk drive under Windows XP is almost identical to Windows 2000.

1. Connect the USB-IDE hard disk drive to your computer using the USB Cable.
2. Turn on your computer.
3. The USB device icon should display on the Taskbar.
4. If the USB-IDE hard disk drive is partitioned or has data, it will show up in *My Computer* as a hard disk drive icon. Check the file system by right clicking on the icon and checking under *Properties > General > File System*. If the file system is NOT FAT32 format, format the USB-IDE hard disk drive using the FAT32 format.
5. If the USB-IDE hard disk drive is not partitioned, go to *Administrative Tools* in *Control Panel* and launch *Computer Management*. Open *Disk Management* in *Storage* and right click an unallocated region of the USB-IDE hard disk drive. Then, click *Create Partition*.
6. In the *Create Partition wizard*, click *Next* then *Primary Partition*, and follow the instructions on the screen. Make sure that the FAT32 is selected for the file system.



NOTE:

The partition size should be less than 32 GB because of Microsoft limitations.

After formatting is complete, the USB-IDE hard disk drive will be added to *My Computer*.

7. Connect the USB-IDE hard disk drive to the DVR.

5.2 Preparing the USB-IDE hard disk drive in Windows 98


NOTE:

Preparing a USB-IDE hard disk drive under Windows ME is almost identical to Windows 98.

1. Connect the USB-IDE hard disk drive to your computer using the USB Cable.
2. Turn on your computer. The *Add New Hardware wizard* window will appear.
3. Install the device driver for the USB backup device following the instructions provided with your USB hard disk drive.
4. If the USB-IDE hard disk drive is partitioned or contains data, it will show up in *My Computer* as a hard disk drive icon. Check the file system in *Properties > General > File System*. If the file system is NOT FAT32 format, format the USB-IDE hard disk drive with FAT32 format.
5. Run the FDISK utility by clicking *Start* then *RUN*. Type "fdisk" and click OK.
6. When the MS-DOS command prompt appears, type "Y" and hit the enter key.
7. In the FDISK Option menu, choose "5. Change current fixed disk drive."
8. Choose the appropriate letter corresponding to the USB-IDE hard disk drive.
9. In the FDISK Option menu, choose "1. Create DOS partition or Logical DOS Drive."
10. In the Create DOS Partition or Logical DOS Drive menu, choose "1. Create Primary DOS Partition." And Type "Y" to use all available space and hit the enter key. Hit ESC to exit the screen after the USB-IDE hard disk drive partition is created.
11. Restart your computer and verify the newly created drive is in *My Computer*.
12. Right click the newly created hard disk drive icon and select "Format".
13. In the Format Screen, select "Full" as the "Format type" and click "Start".
14. After formatting is complete, connect the USB-IDE hard disk drive to the DVR.

6 Appendix B — Reviewing Video Clips

**NOTE:**

It is suggested that the computer used for the Player program has at least an 800MHz Pentium III. If your CPU is slower than this, video clips recorded at maximum speed with very high image quality will be played back slowly.

Disconnect the external USB-IDE hard disk drive or USB CD-RW drive from the DVR, and connect it to your PC. Double-clicking the target clip starts the Player program.



NOTE: You do not need to install any special software on your personal computer to review the video. The copied clip contains the Player program.

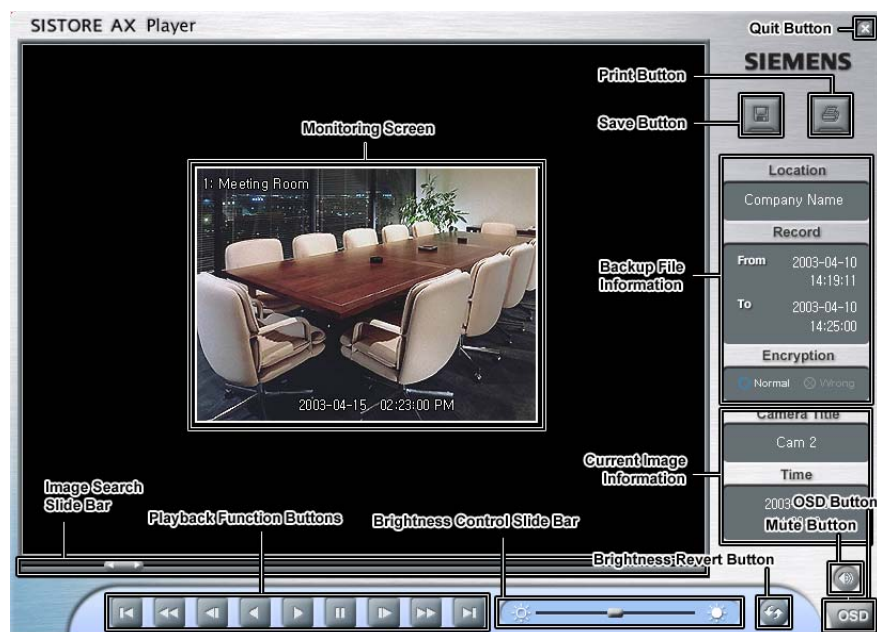


Fig. 82 Player screen.

The Monitoring Screen displays the clip images. Clicking the right mouse button on the images switches the screen size between 320 x 240 and 640 x 480.

Clicking the Quit button exits the Player program.

Click the Print button to print the current image on the printer connected to your computer.

Click the Save button to save the current image in a bitmap file format to the local hard disk drive or floppy disk.

The Backup File Information window displays information regarding the clip file. Location displays the site description of the DVR where the clip copy was made. Record displays the time span of the video clip file. Encryption displays whether the clip file has been tampered with. Normal means the file has not been tampered with, Wrong means the system has detected tampering, and no mark means the user cancelled the encryption check.

The Current Image Information window displays information about the current image. Camera Title displays the camera name of the current image, and Time displays the date and time the image was recorded.

The Image Search Slide Bar displays the current playback position. The user can move to another image clicking the mouse and dragging along the slide bar.

The Playback Function Buttons include fast backward, backward, play, pause, fast forward, go to the first image, go to the previous image, go to the next image, and go to the last image buttons.

The Brightness Control Slide Bar adjusts the brightness of the clip images by clicking the mouse and dragging along the slider bar. Minute brightness change can be made by using the arrow buttons located at each end of the bar.

The Brightness Revert Button reloads to the original image.

Clicking the Mute button mutes the recorded audio.

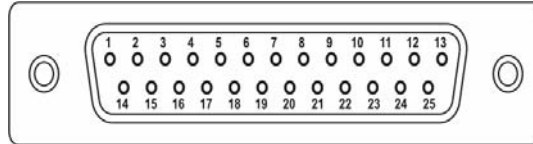
Clicking the OSD (On-Screen Display) Button switches the OSD option. The OSD information includes camera location and date/time.

7 Appendix C — Troubleshooting

Problem	Possible Solution
No Power	<ul style="list-style-type: none"> • Check power cord connections. • Confirm that there is power at the outlet.
No Live Video	<ul style="list-style-type: none"> • Check camera video cable and connections. • Check monitor video cable and connections. • Confirm that the camera has power. • Check camera lens settings.
Live Video Very Bright	If a cable is attached to the “Loop” connector, make certain it is connected to a properly terminated device.
REC LED is Lit but DVR is not recording	Unit will only record video based on the parameters such as schedule and events defined during configuration. REC LED indicates the DVR is ready to record.
DVR has stopped recording	If hard disk drive is full, you will either need to delete video or set the DVR to the Overwrite Mode.
DVR displays an error message stating that the last recorded image date and time is later than the current date and time setting of the DVR.	The DVR will automatically reset the time and date of the unit, according to the time and date of the last recorded image. If this is not the correct time and date, reset the time and date manually. If the correct time and date is earlier than the last recorded image, any video with a later time and date will be lost when resetting the correct time and date.

8 Appendix D — Connector Pin Outs

8.1 Alarm I/O Connector and RS485 Connector Pin Outs



Pin Number	Pin Assignment	Pin Number	Pin Assignment
1	RS485 RX-/TX-	14	RS485 RX+/TX+
2	Alarm Output 3	15	Alarm Output 2
3	Alarm Output 1	16	Alarm Output 4
4	Alarm Reset	17	Ground
5	Alarm Input 16	18	Alarm Input 15
6	Alarm Input 14	19	Alarm Input 13
7	Alarm Input 12	20	Alarm Input 11
8	Alarm Input 10	21	Alarm Input 9
9	Ground	22	Alarm Input 8
10	Alarm Input 7	23	Alarm Input 6
11	Alarm Input 5	24	Alarm Input 4
12	Alarm Input 3	25	Alarm Input 2
13	Alarm Input 1		

9 Appendix E — Connection Diagram

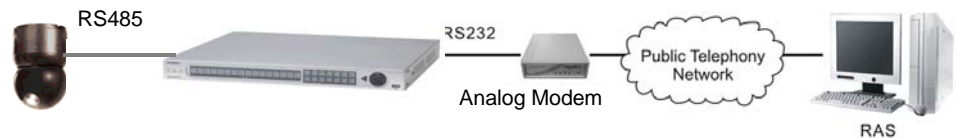
9.1 Sample I. Connecting the Dome Camera and SISTORE AX9/AX16



Remarks

- Default interface parameter for CCDA Dome and SIVIS MINI DOME :
- Baud Rate: 19200 / Parity: NONE / Data Bit: 8 / Stop Bit: 1 / Usage: PTZ Control

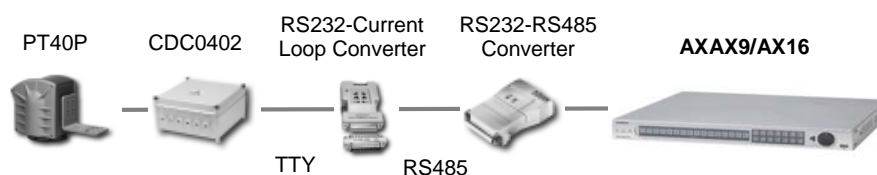
9.2 Sample II. Connecting the External Modem and SISTORE AX RAS



Remarks

- Only two users can connect to the DVR from a remote site at the same time via RAS program. External modem and remote controller cannot be used at the same time.
- Default interface parameter for external analog modem
- Baud Rate: 57600 / Data Bit: 8 / Stop Bit: 1 / Parity: NONE
- Default interface parameter for external ISDN modem
- Baud Rate: 115200 / Data Bit: 8 / Stop Bit: 1 / Parity: NONE
- Callback to RAS and callback to the pager cannot be used at the same time.
- The following modem is recommended: Manufacturer: Devolo, Modem: Microlink ISDN i, Distributor: www.alternate.de. The modem works with 1 channel (64 Kbit).

9.3 Sample III. Connecting the SISTORE AX and SCU



Configuration of SISTORE AX:

- In the RS232/RS485 menu:
 - RS485: Baud Rate: 2400
 - Parity: Even
 - Data: 8
 - Stop: 1
 - Usage: PTZ Control
- In the „Camera“ menu:
 - Camera setting:
 - PTZ Device: Siemens SCU
 - ID: 1

Configuration of the Roline RS232<->RS485 Converter:

- T-RTS
 - Rx ON
- DTE (or DCE; must not be identical with the other converter)

Configuration of the RS232<->Current Loop Converter:

- 20 (mA)
- Rx ACT (Active)
- Tx ACT (Active)
- DCE (or DTE; must not be identical with the other converter)

(If the two converters are connected using a cross-over cable, either DCE or DTE must be set on both converters.)

10 Appendix F — Recording Table

10.1 All 16 Channel Recording Times with 250 GB HDD (Days)

	Recording Quality (Standard Resolution)			
Recording Speed	Very High (18KB)	High (7KB)	Standard (3KB)	Low (2KB)
60 ips NTSC	2.7	6.9	16.1	24.1
50 ips PAL	3.2	8.3	19.3	28.9
30 ips NTSC	5.4	13.8	32.2	48.2
25 ips PAL	6.4	16.5	38.6	57.9
20 ips	8.0	20.7	48.2	72.3
15 ips	10.7	27.6	64.3	96.5
10 ips	16.1	41.3	96.5	144.7
5 ips	32.2	82.7	192.9	289.4
2.5 ips	64.3	165.3	385.8	578.7
1 ips	160.8	413.4	964.5	1,446.8
0.5 ips	321.5	826.7	1,929.0	2,893.5
0.25 ips	643.0	1,653.4	3,858.0	5,787.0
0.1 ips	1,607.5	4,133.6	9,645.1	14,467.6

	Recording Quality (High Resolution)			
Recording Speed	Very High (32.4KB)	High (12.6KB)	Standard (5.4KB)	Low (3.6KB)
60 ips NTSC	1.5	3.8	8.9	13.4
50 ips PAL	1.8	4.6	10.7	16.1
30 ips NTSC	3.0	7.7	17.9	26.8
25 ips PAL	3.6	9.2	21.4	32.2
20 ips	4.5	11.5	26.8	40.2
15 ips	6.0	15.3	35.7	53.6
10 ips	8.9	23.0	53.6	80.4
5 ips	17.9	45.9	107.2	160.8
2.5 ips	35.7	91.9	214.3	321.5
1 ips	89.3	229.6	535.8	803.8
0.5 ips	178.6	459.3	1,071.7	1,607.5
0.25 ips	357.2	918.6	2,143.3	3,215.0
0.1 ips	893.1	2,296.4	5,358.4	8,037.6

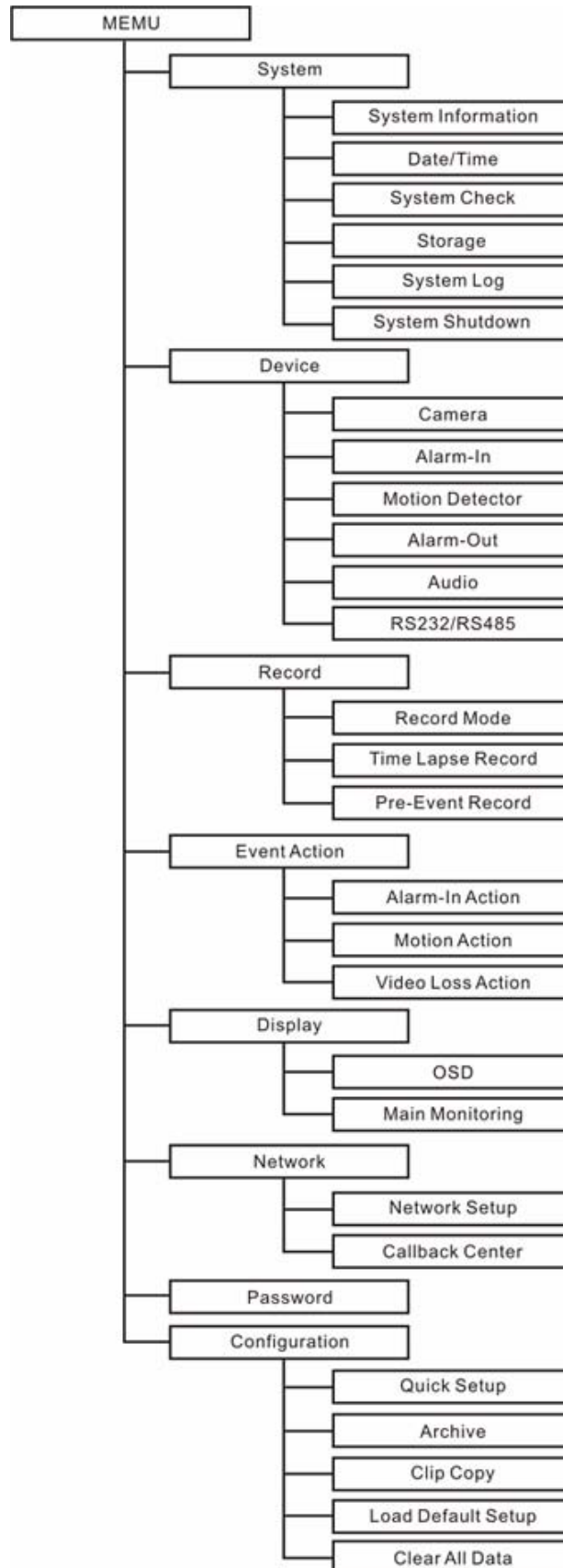
NOTE:

The ips (images per second) of the above table is not the configured recording speed per camera, but the total number of recorded images per second. The values of the table represent the average case, therefore it is not guaranteed.

The SISTORE AX has a maximum recording speed of 50 images for PAL (60 images for NTSC) per second (ips) that will be applied globally depending on the number of cameras recorded.



11 Appendix G — Screens Map



12 Appendix H — Specifications

VIDEO

Signal Format	PAL or NTSC (selector switch)
Video Input	Composite: 9 or 16 looping inputs, 1 Vp-p, auto-terminating, 75 Ohms
Monitor Outputs	Composite: One, 1 Vp-p, 75 Ohms SVHS: One
Video Resolution	Standard: 336 x 272 (PAL), 336 x 224 (NTSC) High: 672 x 272 (PAL), 672 x 224 (NTSC)
Playback/Record Speed (images per second)	Standard Resolution: 50 ips (PAL), 60 ips (NTSC) High Resolution: 25 ips (PAL), 30 ips (NTSC)

INPUTS/OUTPUTS

Alarm Input	9 or 16 TTL, NC/NO programmable, 4.3 V threshold, using supplied Alarm I/O Board
Alarm Output	4 dry contact (open collector), 5 mA / 12 V, 30 mA / 5 V
Alarm Reset Input	1 dry contact, 4.3 V threshold, using supplied Alarm I/O Board
Network Connectivity	10/100 Mbps Ethernet RS232 for external modem
Audio Input	One, "line in" or "mic" programmable
Audio Output	One, "line"

CONNECTORS

Video Input	Composite: 9 or 16 BNC
Video Loop	Composite: 9 or 16 BNC
Monitor Output	Composite: 1 BNC SVHS: 1 Y/C
Audio In	RCA connector
Audio Out	RCA connector
Alarms / RS485	DB-25 male connector (with alarm I/O board)
Ethernet Port	RJ-45
RS232 Serial Port	DB-9 male connector
SCSI Port	High-density UltraWide SCSI connector (68-pin)
USB Port	USB connector

STORAGE

Primary Storage	EIDE hard disk drive (up to 2)
Secondary Storage	SCSI hard disk drive (RAID)
Backup Storage	USB hard disk drive

GENERAL

Dimensions (W x H x D)	16.9" x 1.7" x 15.7" (430 x 44 x 399 mm)
Unit Weight	14.3 lbs. (6.5 kg)
Shipping Weight	20.0 lbs. (9.1 kg)
Shipping Dimensions (W x H x D)	21.3" x 12.1" x 20.1" (540 x 175 x 510 mm)
Operating Temperature	41 to 104°F (5 to 40°C)
Operating Humidity	0 to 90%
Power Supply	100 to 240 V AC, 1/2 A, 60/50 Hz Auto ranging adapter included.
Input Voltage / Current	12 V DC / 5.8 A
Power Consumption	70 Watts Max.

APPROVALS

FCC	FCC PART 15 Subpart B, Class A
CE	EMI: EN55022, 1998, Class A Safety: EN60950 Immunity: EN50130-4, 1998, Alarm Standard

Specifications are subject to change without notice.

13 Keyword Index

A

Active Cameo Mode, 71
AI 1 to 16 (Alarm In), 16
Alarm Button, 22
Alarm I/O Connector, 85
Alarm In Event Action (Alarm Out) Setup Screen, 49
Alarm In Event Action (Notify) Setup Screen, 50
Alarm In Event Action (Record) Setup Screen, 48
Alarm In Setup Screen, 38
Alarm Out Setup Screen, 41
AO 1 and 2 (Alarm Out), 16
ARI (Alarm Reset In), 16
Audio Setup Screen, 42

B

Backup LED, 21
Clip Copy, 67

C

Calendar Search, 75
Callback Center (LAN) Setup Screen, 61
Callback Center (Modem) Setup Screen, 62
Camera Buttons (1 to 16), 21, 73
Camera Setup Screen, 37
Clear All Data, 69
Config Screen, 64
Configuration, 21
Configuring Input Devices, 37
Configuring Recording Settings, 44
Connecting Alarms, 15
Connecting Audio, 15
Connecting the Loop Through Video, 14
Connecting the Monitor, 14
Connecting the Power Cord, 20
Connecting the Video Source, 14
Connecting to the Network Port, 18
Connecting to the RS232 Port, 17
Connecting to the RS485, 17
Connecting to the UltraWide SCSI Port, 18
Connecting to the USB Port, 19
Connector Pin Outs, 85

D

Date/Time Search, 75
Date/Time Setup, 29
Display Button, 22, 73
Duplex LED, 21

E

Enter Button, 24
Event Action Setup, 48

Event Search, 77

F

Factory Reset, 19
Features, 11
FF (Fast Forward) Button, 23, 74
Freeze Button, 22
Front Panel Controls, 21

G

GND (Ground), 16

I

Initial Unit Setup, 24
Installation, 13

L

LAN Setup Screen, 59
Live Monitoring, 70
Load Default Setup, 69

M

Menu Button, 22
Modem Setup, 60
Motion Detector, 39
Motion Detector Event Action (Alarm Out) Setup Screen, 51
Motion Detector Event Action (Notify) Setup Screen, 52
Motion Detector Event Action (Record) Setup Screen, 50

N

Network connector, 18
Network LED, 21
Network Setup Screen, 58
Next Button, 23, 74
Normal Setup Screen, 26

O

Operation, 70
OSD (On-Screen Display) Setup Screen, 55

P

Package Contents, 13
Password Setup Screen, 63
PIP Mode, 71
Playing Recorded Video, 73
Power cord connector, 20
Pre-Event Recording Setup Screen, 47
PREV (Previous) Button, 23, 73
PTZ Button, 22
PTZ Mode, 71

Q

Quick Setup Screen, 25

R

REC (Record) Button, 23
 Record Mode Setup Screen, 44
 Recording Audio, 73
 Recording Table, 88
 Recording Video, 72
 Required Installation Tools, 13
 Reviewing Video Clips, 82
 RS232 connector, 17
 RS232/RS485 Setup Screen, 43
 RS485 connector, 17
 RS485 Connector Pin Outs, 85
 RW (Rewind) Button, 23, 73

S

SCSI connector, 18
 Search Button, 22
 Searching Video, 74
 Sequence Button, 22
 Sequence Display Setup Screen, 56
 Setting Unit for PAL or NTSC, 13

Stop Button, 23, 74
 Storage Check Screen, 33
 System Check Screen, 32
 System Information, 26
 System Log Screen, 36
 System Shutdown, 36

T

Time-Lapse Record Mode Setup Screen, 45
 Time-Lapse Recording Schedule, 46
 Troubleshooting, 84
 Turning on the Power, 24, 70

U

Up, Down, Left, Right Arrow Buttons, 24
 USB connector, 19
 USB Hard Disk Drive, 80

V

Video Loss Event Action (Alarm Out) Setup Screen, 53
 Video Loss Event Action (Notify) Setup Screen, 54, 55
 Video Loss Event Action (Record) Setup Screen, 52

Issued by SGS
Fire & Security Products
D-76187 Karlsruhe

www.sbt.siemens.com/FSP

© 2004 Copyright by
Siemens Building Technologies AG
Data and design subject to change without notice.
Supply subject to availability.
Printed in the Federal Republic of Germany
on environment-friendly chlorine-free paper.

Document no. **A24205-A336-B545**
Edition 09.2004